

BULLETIN OF THE DEPARTMENT OF SECONDARY-SCHOOL PRINCIPALS OF THE NATIONAL EDUCATION ASSOCIATION

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Abstracts of Unpublished Masters' Theses in the Field of Secondary-School Administration

Prepared under the Direction of
HARL R. DOUGLASS
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THE DEPARTMENT OF SECONDARY-SCHOOL PRINCIPALS OF THE NATIONAL EDUCATION ASSOCIATION

H. V. CHURCH, Executive Secretary
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TO THE MEMBERS OF THE DEPARTMENT OF SECONDARY-SCHOOL PRINCIPALS

Secondary education in the United States faces a serious crisis. It is being attacked from many quarters because of its cost and the so-called luxuries in its program of studies. The issues raised should be met and solved by those who understand secondary education rather than by its foes.

The officers of the department desire to render every possible assistance to the members in solving their problems. Individual members have no doubt solved many of their problems in a very successful way. If the experiences thus acquired by individual members could be pooled, the department as a whole would profit from the successes of the individual members. To this end we hope to publish soon a bulletin giving a classified list of the constructive measures employed by secondary-school principals in meeting the problems created in their schools by the depression.

Will you please send in promptly a brief but explicit account of any contribution you have made which has enabled you to meet critical problems in the administration of your school without serious impairment of efficiency. If you report more than one measure write each separately and give supporting data rather than opinion.

It is hoped that a sufficient number of principals will respond to this request to enable us to publish a bulletin of great practical value to our membership. Some of the topics on which we hope to secure reports are: Teacher load, financing extra-curriculum activities, budget administration, financing interscholastic competitions, school supplies and equipment, operation and maintenance economies, curriculum administration, schedule improvements, provisions for post-graduates, public relations, etc. The following examples illustrate the form desired in your reports.

Curriculum Reorganization

A complete overhauling of our bookkeeping course has been made. Much material has been eliminated. Bookkeeping was changed from a double-period subject to a single-period subject. Our present teachers are now teaching 314 pupils. Formerly these same teachers took care of only 180 pupils. The change has enabled us to save the salary of one teacher, or approximately \$2,200.

(Continued on page 100)

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no.

SPECIAL NOTICE

The Hollenden Hotel, Cleveland, Ohio, will be the headquarters hotel of the Department of Secondary-School Principals for the annual meeting in February, 1934.

All sessions of the secondary-school convention will be held in the Hollenden Hotel, on February 26, 27, and 28, 1934.

SECOND SPECIAL NOTICE

The address of the headquarters of the Department of Secondary-School Principals and of the National Honor Society is 5835 Kimbark Avenue, Chicago

H. V. CHURCH, *Executive Secretary*

THIRD SPECIAL NOTICE

A new directory of the Department members will issue soon. If the data opposite your name in the Directory of Bulletin 44 is incomplete or incorrect, please send correct material at once to the Department address above. If you do not have access to Bulletin 44, please fill blank below and send it **at once**.

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Abstracts of Unpublished Master's Theses
at the
University of Minnesota
Relating to Secondary-School Administration and Supervision

Prepared under the direction of

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ABSTRACTS OF UNPUBLISHED MASTER'S THESES AT THE UNIVERSITY OF MINNESOTA RELATING TO SECONDARY-SCHOOL ADMINISTRATION AND SUPERVISION

At the invitation of Mr. H. V. Church, Secretary of the Department of Secondary-School Principals of the National Education Association, the abstracts in this volume were prepared. In the majority of instances, the thesis was abstracted by the member of the staff under whom the thesis was written. A number of the theses, however, were written under the supervision of instructors now teaching at other institutions, including:

Dean Greyson N. Kefauver, Stanford University

Dean Earl Hudelson, University of West Virginia

Professor Leonard V. Koos, University of Chicago

Professor Claude N. Stokes, Temple University

The theses abstracted constitute only about forty per cent of the theses written on problems of high-school administration and supervision at the University of Minnesota. Theses omitted were not abstracted for one or more of the following reasons:

1. Thesis had already been published.
2. Data of thesis, particularly in the case of theses dealing with surveys of conditions or practices, are so old as not to be representative of conditions or practices to-day.
3. Copies of thesis no longer available.
4. Data or methods of treatment of thesis open to serious criticism.

PART I

Status, Training, Salaries, Responsibilities, and Teaching Load of Teachers and Principals

Johnson, Carl L. *A Study of the Social Status, Experience, Training, Teaching-load and Salaries of High-School Teachers of New Jersey.* 1930.

Problem.—This survey investigation points out pertinent facts regarding the social composition, experiences, training, professional attitude, instructional load and salaries of high-school teachers in New Jersey.

Data and Technique of Investigation.—These data were obtained by means of a questionnaire sent to a large number of teachers in representative high-schools in New Jersey. The blank was circulated for and under the supervision of the New Jersey Educational Survey Commission and the percentage of replies was very high. By supplementing and comparing these data with the answers on a questionnaire filled out by all high-school principals of the state, it was shown conclusively that the data given on the first questionnaire was reliable.

Findings and Conclusions.—

1. **Sex**—Women comprise 61.8 per cent of the secondary teaching personnel in New Jersey. However as the size of the school increases the percentage of men employed increases, until in the larger schools (over 899 pupils) 41.9 per cent of the teachers are men.
2. **Age**—The median age of teachers in small schools (100-399 pupils) was 27.9 years, in medium schools (400-899 pupils) 28.8 years, and in large schools (over 899 pupils) 35.6 years. New Jersey teachers are neither novices nor veterans. That they are old enough to have definitely settled on the teaching profession is evidenced by the fact that 84 per cent of them said that "teaching was their permanent life occupation."
3. **Marital Status**—Seventy-three and six tenths per cent of the men teachers and 14.9 per cent of the women teachers were married. Married teachers were found in larger numbers in the larger school systems. The factor of age may have accounted for this rather than any tendency of

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smaller communities to discriminate against married women teachers.

4. Teaching Experience—The amount of teaching experience possessed increases with the size of the high school. In the smaller schools the median number of years was found to be 5.8 years, in the medium sized schools 7.2 years and in the larger schools 14.8 years.
5. Training—New Jersey recruits its teachers largely from other states. Only one of six New Jersey high-school teachers is trained within the state; nearly one in five is trained in Pennsylvania; one in three in New York; and one in three in some other state.

Teachers in the smaller schools have a median academic training of 4.35 years above high-school. In the medium sized schools the amount of training is 4.3 years above high school and in the larger schools 4.7 years.

DEGREES HELD BY NEW JERSEY TEACHERS (1928-9)

	Smaller (100-399)		Medium (400-899)		Large (Over 899)		Total	
	No.	%	No.	%	No.	%	No.	%
No degree	25	22.8	45	21.5	58	16.3	128	19
B. A. only.....	72	67.9	138	66.0	189	53.3	399	59.6
M. A.....	7	6.7	26	12.4	103	29.0	136	20.4
Ph. D.	2	1.9			5	1.4	7	1.0

As far as training in professional subjects is concerned the teachers in the small schools are as well off as those in larger schools. The median number of semester hours in education subjects hovers close to 17.5 hours for each of the three groups.

6. Teaching Load—Approximately 86 per cent of the teachers taught in only one field. The typical teaching load for the typical teacher of the state was five class periods daily, 125 pupils in classes per day three distinct class preparations daily, one period daily in study room supervision and two and a half hours per week in supervising student activities.

Summary.—The typical New Jersey high-school teacher is 33 years of age, started teaching at the age of 22, and has four years of training beyond high-school. This typical teacher has had 36 semester hours in his major field and 17.9 semester hours in professional subjects.

The typical teacher has had 10 years of experience and has been in the same school for slightly more than five years.

Eighty-six out of a hundred teachers will be found teaching in only one field. The typical high-school teacher receives \$1978 annually.

Reichard, Clifford E. *The Working Day of the High-School Teacher in Minneapolis.* 1929.

Problem.—

1. To determine the relative contribution of several types of instructional and extra-instructional duties to the teaching load.
2. To furnish a basis for comparison of the relative load involved in teaching various subjects and various groups of pupils.
3. To furnish data relative to the length of the working day for teachers of each sex.

Data and Technique of Investigation.—Teachers in six Minneapolis high-schools were asked to keep day by day for one week (February 14-20, 1921) an account of the time spent, checked by their watches, in each of 15 types of activities. Such a request was sent to approximately four hundred teachers and of these 131 furnished usable data (35 men, 98 women).

Findings and Conclusions.—

1. *The average total working week* for men was 47 hours, for women 45 hours, for both 46 hours, with an interquartile range for both sexes of 38.4 to 52.5 hours. Other studies had reported average working weeks of from 41.5 hours (Brownell) to 49.5 hours (Koos, Frank H.). Other averages were 47.8 hours (Carving), 46.7 (Koos, L. V.) and 44.5 hours (Greenan).

2. Mosaic of work day

Instructional Duties Type of Activity—	Average Number of Hours per Day		
	Men	Women	Both
Lesson preparation	1.02	1.07	1.05
Class recitation	2.90	3.10	3.00
Correction of pupils' written work .....	.93	1.20	1.13
Conferences with students.....	.58	.70	.67
Miscellaneous	1.47	.93	1.11
Total of instructional time.....	6.90	7.00	6.96
Per cent of work day.....	73	77	76

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Non-Instructional Duties—	Average Men	Number of Minutes per Day Women	Average Number of Minutes per Day Both
Study hall.....	27.2	17.9	20.4
Hall duty.....	9.0	4.2	5.4
Advisory period.....	11.3	13.0	12.6
Teachers' meetings.....	8.4	10.6	10.0
Committees.....	4.3	6.1	5.7
Supervisory conferences.....	3.1	4.1	3.8
Student activities.....	21.9	18.6	19.5
University courses.....	16.6	8.1	10.3
Professional reading.....	20.5	18.4	18.9
Miscellaneous	22.3	15.0	18.2
Total non-instructional duties.....	152.4	116.6	126.0
In hours per day.....	2.56	1.94	2.10
Per cent of work day.....	27	23	24

Findings of other investigators as to distribution of work day between instructional and non-instructional duties:

AUTHOR OF STUDY—	Per Cent Instructional Duties	Per Cent Non- Instructional Duties
Brownell	75	25
Corning	70	30
Davis	71	29
Greenan	71	29
Koos, F. H.	76	24
Koos, L. V.	68	32
Reichard	76	24
Average of all.....	72	28

3. *Influence of certain factors on load:*

Total instruction time spent for each 45 minute class period.

SUBJECT—	No. of Teachers	Average No. of Minutes	Median No. of Minutes
English	52	101	97
All social studies.....	35	93	89
Foreign languages	31	78	74
Mathematics	20	77	79
Science	30	71	76
Commercial	22	68	63
Industrial arts.....	20	58	58
Miscellaneous	15	65	57
All subjects	225	76.5	75.2

These findings are in close agreement with those of Brownell, Koos, and Woody and Bergman.

The data of this study show that the time spent per period increases in certain subjects with the grade-level of the class. The figures for the four years of English being 92.7, 97.1, 98.9 and 110.8, respectively. Algebra requires 10 minutes more a day than geometry. American History (11th grade) requires less than history and social studies of the 9th, 10th, and 11th grades. Social science in the 12th grade requires a very much greater amount of time than the other years.

Exceptions to the general trend are industrial arts, commercial subjects and science; biology (10th grade) requiring more time and physics (11th grade) requiring less.

The amount of time spent in instructional duties increased with size of class, classes of less than 16 pupils requiring on the average 72 minutes, those of 18-29, 77 minutes and those of 30 or more 84 minutes. Classes in science and foreign languages are exceptions to the rule.

Most startling are the author's conclusions that duplicate or repeated sections require as much instructional time as unique sections, though English and foreign language classes are exceptions with a slight decrease in time with number of similar sections. No doubt the nature of the subjects is involved inasmuch as certain types of subjects may tend to have more duplicate sections than others of dissimilar demands on teacher time.

Due to greater non-instructional duties men teach about a half hour longer daily than do women.

There exist great inequalities in teaching loads of teachers due probably to failure to recognize differences in demands of different subjects and to lack of a satisfactory means of measuring load.

Schrader, F. A. *The Organization of Minnesota High-Schools for the Purposes of Administration with Special Reference to the Status of the Principal.* 1930.

Problem.—This investigation presents a study of the administrative organization of Minnesota high-schools with special reference to the status and duties of the principals.

Data and Technique of Investigation.—Data regarding administrative organization of the school and the experience and training of the principal were gathered by means of question-

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naires sent to the principals of the high-schools of Minnesota listed in the Educational Directory of the state (1929-30) exclusive of those in schools located in Minneapolis, St. Paul, or Duluth. Of the 297 principals thus approached, 152 or slightly more than 51 per cent furnished usable replies.

Throughout the study, the schools were grouped according to size of enrollment: Group I (43-100 pupils)—42 schools; Group II (101-300 pupils)—78 schools; Group III (over 300 pupils)—32 schools.

Replies to items on the questionnaire dealing with the administrative organization of the school and the duties and training of the principals were tabulated and presented for each group of schools.

Findings and Conclusions.—1. The distribution of high-school principals by sex shows a preponderance of men, only 36% being women.

2. The median annual salary of women principals is \$1575.00; the median salary of men is \$1800.00.

3. All the principals who answered the questionnaire hold at least the baccalaureate degree. No principals in the smallest schools have master's degrees. In the second group, two principals have the master's degree and in the largest schools, eight principals, all men, hold master's degrees.

4. Seventy-five per cent of the principals received their undergraduate training in Minnesota colleges or universities.

5. Sixty-three per cent of the men and 67% of the women had attended summer school sessions since 1924.

6. All Minnesota principals have taken some courses in education and more than 50 per cent have had at least six such courses.

7. The education courses taken by the largest proportions of the principals are history of education, secondary education, high-school administration, general methods, educational psychology, and practice teaching.

8. Only 28 per cent of the men who are now principals had, upon entering college, planned to enter educational work of an administrative type; 16 per cent more intended to teach.

9. Eighty-six per cent of the women who are now principals intended to teach when they entered college; only 9 per cent planned to become principals.

10. In class I schools (those enrolling less than 100 pupils) where we may expect to find the largest number of

"young" principals in length of service, over 40 per cent of the men now acting as principals had decided upon some form of school administration as a career when they entered college. In class II, the percentage drops to 20 and in class III to 8.

11. In class I, ten per cent of the women had decided upon administrative work. In class II no women had decided on administration and of the seven women in class III, one had chosen administration as her intended career.

12. Only 12 per cent of the principals reported an undergraduate major or minor in education. In graduate work, in only scattering instances, is any other subject mentioned as of greatest interest.

13. Fifty-one per cent of the men and 58 per cent of the women desire to continue in the principalship.

14. Of the men who expressed a desire to change from the principalship, the superintendency is the choice of 16 per cent.

15. No woman expressed a desire to change to the superintendency.

16. Seventy-five per cent of the principals in class I report no time available for general administration or supervision. Twenty-eight per cent of the principals in class II have no scheduled time for these responsibilities. In the group of largest schools, all principals report some time available for administration and supervision. Twenty-one per cent of this group have the entire day free for these duties.

17. Ninety-three per cent of the principals in class I have no office accommodations. None have clerical assistance. In class II schools, 92 per cent of the women and 38 per cent of the men have no office facilities. Only one woman in this group has any clerical help and 53 per cent of the men are without this type of assistance. In the largest schools (group III) all of the men have offices. Only two of the seven women in this group have their own offices, but the remaining five share them with the superintendent.

18. In 98 per cent of the cases, the superintendent's office is in the high-school building.

19. Except in functions concerned with minor pupil relations, initiative does not rest with the principal in the majority of schools. Especially is this true in the smallest schools. In less than one-third of all the schools does the principal call the meetings of the high-school teachers. In even fewer does

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he consult with teachers regarding their work. The principal is responsible for classroom visitation in but 16 per cent of the schools. It is only in class III schools that the non-teaching duties assigned to the majority of principals are of anything but a clerical and disciplinary nature.

20. Less than 2 per cent of the principals assume direct responsibility for health work in their schools. In 87 per cent of the schools reporting, neither the superintendent or principal had responsibility in this work. In over 50 per cent of the schools no one is responsible for health work.

21. Replies indicate that in all schools the principal pays but little attention to the supervision of work in agriculture, physical education, home economics, and industrial education.

22. All but one of the schools report one or more extra-curriculum activities. The smallest schools average 4.5 activities per school, group II 6 per school and group III 5.5 per school.

23. Fifteen per cent of the schools employ a dean of girls.

24. One-fifth of the schools reporting have buildings devoted exclusively to high-school uses. A building having only grades seven to twelve located in it is considered as being devoted entirely to high-school work.

Summary.—The following conclusions seem justified on the basis of the data presented.

1. The principals of high-schools in Minnesota are often not the responsible heads of these schools, but merely teachers with added duties often of a clerical nature. Except in the largest schools, they have but little choice in determining policies or practices.

2. Until a school reaches approximately three hundred secondary pupils the superintendent can, and does, perform most of the administrative and supervisory duties.

3. There is nothing in the data assembled in this study to justify the continuance of the legal requirement in Minnesota that there shall be a principal for every accredited secondary-school.

4. In spite of the relatively low salaries paid, many Minnesota principals show a wholesome desire to improve their professional preparation.

5. Health work in Minnesota high-schools should be better organized than appears to be the case at present.

6. Principals and superintendents do not assume responsibility for the supervision of agriculture, physical education, home economics and industrial education classes.

7. The possession of specific building facilities such as separate high-school buildings, auditoriums, gymnasiums, etc. seems to depend largely upon the size of the school.

Due to the errors of sampling, the findings should be interpreted as picturing a situation probably somewhat better than would have appeared had data from the entire group of schools been included. The findings are in general agreement with previous studies of the high-school principalship.

PART II

Curricula, Courses of Study, Textbooks and Instructional Needs

Anderson, L. Warren. *A Survey of the Organization and Administration of the Curricula in the Accredited Public High-Schools of North Dakota.* 1932.

Problem.—The investigator concerned himself with seeking to find the outstanding characteristics and differences in the organization and administration of the high-school curriculum in North Dakota.

Data and Technique of Investigation.—Data for this investigation were obtained from the records in the State Department of Public Instruction at Bismarck, a check list answered by superintendents in various schools, the published annual high-school reports, the annual high-school report questionnaire, the general school laws of North Dakota, and bulletins from the state universities and colleges. Of the total of 199 public high-schools, replies to the questionnaire were received from 180.

Findings and Conclusions.—Schools in North Dakota are classified, "First Class", "Second Class" and "Third Class" in general according to the size of the school, the third class being the smallest schools.

A. *Organization.*—Seventy-two per cent (74 schools) of the first class, 94 per cent (37 schools) of the second class, and 94 per cent (37 schools) of the third class operate under the 8-4 plan. Fourteen of the first class schools have 6-2-4 plan and only 9 first class schools have the 6-3-3 plan.

B. *Offerings and enrollments.*—Sixteen per cent of all subjects offered may be classified as Social Science; 16% as Foreign Language; 14% as Commercial; 10% as Natural Science; 10% as Mathematics; 10% as Industrial Arts; 10% as English; 6% as Household Arts; 3% as fine Arts and 2% as Physical Education.

TABLE I
TYPES OF CURRICULAR ORGANIZATION USED

TYPE—	First Class Schools (Larger)	Second Class Schools	Third Class Schools (Smaller)
1. The single curriculum type.....	1	1	6
2. Pure multiple curriculum type....	5	1	0
3. Constants with variables.....	67	40	28
4. The combination type.....	21	10	0
All types	94	52	34

Where specialized curricula are set up 19 per cent of the first and second class schools have a commercial curriculum, 15% college preparatory, 6% agriculture and only 1.6% vocational, 1.6% scientific and 1.6% classical.

Grade placement of subjects.—While the customary placement of subjects under the 8-4 plan is generally followed yet second year mathematics is the only subject which is given in the tenth grade only. General science is given in the ninth and also in the 12th grade. First year German is given in either the 10th, 11th, or 12th grades. Home economics is universal, being started in every grade. Woodworking II is likewise a "man without a country", being given in the 10th, 11th, and 12th grades. However, for the most part subjects are offered in only two successive years. This arrangement is made to care for alternation and combination of classes.

Activities.—The average number of pupils' organizations in first class, second class and third class schools is 5.7, 4.6 and 4.8, respectively. The lack of organizations is undoubtedly due to the smallness of the schools and the heavy teaching load of the teachers. North Dakota high-schools allow little scholastic credit for student activities, the greatest frequency being $\frac{1}{4}$ credit and varying from zero to $\frac{1}{2}$ credit.

Responsibility for curriculum organization.—The superintendent is in the great majority of cases responsible for curriculum changes, and in most other cases the superintendent and the board of education are jointly responsible.

Miscellaneous Phases of the Administration and the Curriculum.—Class size. In first class schools median class size was 21.1 pupils; second class schools, 18.2; and third class, 14.4. Many classes too small to be economical were found.

Length of Class Period. Forty-one to fifty minutes is the average length of class periods in the majority of North Dakota schools. There are very few instances of classes less

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than 40 minutes in length and in several of the first class schools periods have been lengthened to 60 minutes.

Subjects in Which There Are Double Periods. Double periods are most frequently required in practical arts, fine arts, natural science and commercial subjects.

Alternation of Subjects. The alternation of subjects (offering each of two subjects but once in two years) is a common practice. The subjects in which alternation is most commonly practiced are the natural sciences, advanced social science, advanced English and foreign language.

Promotion Policy. A large proportion of the high-schools of all classes allow pupils to take high-school work even though they have not passed in every elementary subject.

Ability Grouping. Sixty-two per cent of the first class, 74% of the second class and 74% of the third class schools practice no type of ability grouping.

Weaknesses of North Dakota Schools.—The author lists as the outstanding weaknesses of North Dakota high-schools

(1) The offerings are too extensive in relation to the number of teachers, resulting in small sections and causing heavy teaching loads.

(2) There are too few schools offering practical and household art courses.

(3) In view of the nature of the state there are too few pupils enrolled in agriculture.

(4) Too many units of foreign language of the elementary type are being offered and not enough of the advanced type.

(5) Art has not been accorded the deserved prominence in most schools.

(6) The variety of extra-curriculum activities is inadequate in many schools.

(7) Some subjects are not taught early enough to fulfill their exploratory and finding potentialities.

(8) The possibilities for guidance have not been fully realized.

(9) There is too close adherence to traditional and conventional school subjects.

(10) The number of required subjects or constant is disproportionately large.

- (11) There has not been enough recognition of the policy of consolidation of schools as a means of alleviating curriculum difficulties.
- (12) The traditional 8-4 plan is still quite uniform.
- (13) There is little or no provision for ability grouping.
- (14) Heavy loads in small high-schools due to failure to employ extensively the practice of offering some subjects only in alternate years.

Cole, Carl E. *An Analysis of the War Content of Thirty Junior and Senior High-School American History Textbooks.* 1933.

Problem.—To determine the extent and the nature of the war content of thirty texts with a view to estimating the probable effects upon the pupils. A supplementary problem was a determination of the trend in the treatment of war in textbooks.

Data and Technique of Investigation.—Thirty widely used texts in American History were selected. While no statistics of the extent to which a specific text is used are available, it was assumed that the productions of the popular publishers all attained a reasonably wide use. Particular attention was given to the copyright date. Five texts with copyright dates before 1900 were included, the oldest being 1872. The most recent was copyrighted in 1930.

The author devotes one chapter to a discussion of the biological, political, economic, and social theories of war and another to a survey of studies which have been made of the war content of textbooks. In determining the *extent* of the war material the following were computed: (1) the percentage of the text devoted to military affairs; (2) the percentage of questions, topics, and references devoted to war; and (3) the percentage of illustrations of a war-like nature. The second step was an attempt at a qualitative evaluation of the probable effects of the war materials. While this procedure was somewhat subjective in nature it was handled as objectively as possible.

The results of the qualitative study are also presented in tables. Each of four columns are headed by one of the following questions: 1. Is the treatment so strongly emotional that it would create a desire in the pupil to participate in the experiences depicted? 2. Are the illustrations on war made so

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attractive to the pupil that he will be led to think of war as a worthy undertaking? 3. Is there a straight-forward presentation of the bare results relating to war which would produce little effect upon the pupils? 4. Does the author depict the horrors, the suffering, the destruction, the carnage, the bestiality of war?

Findings and Conclusions.—(1) The percentage of war content varies from 43.5% to 8.8%; (2) Only two texts make any positive attempt to depict the horrors of war; (3) Twelve texts make war attractive by their illustrations; (4) Thirteen of the textbooks gave a straightforward presentation of the events; (5) Eighteen out of thirty textbooks made war attractive by favorable comments about war leaders; (6) Striking words, phrases, and clauses describing war activities were found in twenty-four of the thirty textbooks; (7) The average per cent of total war content in thirty texts was found to be 19.9%; (8) The total war content, including war illustrations, questions, pages, words and reading references, in textbooks published before 1918 was found to be 27.33%. (9) The total war content of textbooks published after 1918 was found to be 15.6%.

This marked decrease in the war content of American history textbooks published since the World War might be accounted for, (1) by the increased emphasis upon social and industrial history in this period; (2) by the revulsion toward war which has come upon people in general since the World War with its more modern and more horrible methods of destruction and by still vivid presence of the horrors of the recent war in the memories of millions of ex-soldiers; (3) the realization which has come to many, including writers of textbooks, of the futility of war in settling the great issues between modern nations, and (4) the activities of peace organizations in the period following the World War, which may have had some effect in shaping the content of present day textbooks.

Houghton, Max Howard. *Age and Grade Classification or Factors Affecting Achievement in High-School Economics.* 1932.

Problem.—Primary— The effect of grade placement of high-school economics upon achievement.

Secondary—The relationship of sex, intelligence and socio-economic status to achievement in economics.

Data and Technique of Investigation.—

Part I.—Economics in Minnesota High-Schools.

1. The Minnesota Educational Directory showing in what schools economics and other social studies are offered.

2. Teachers' qualification blanks in the files of the state department of education were employed for data concerning the grade placement of economics in Minnesota high-schools.

3. A questionnaire submitted to a representative group of high-school principals; one in every five in the state directory, 133 in all, to which 115 replies were received. These replies furnished data as to enrollments for courses in economics in the respective schools.

Part II. Experimental Study of Relative Achievement of Seniors, Juniors, and Sophomores in Economics.

Sec. 1. The scores made at the end of a semester's instruction in economics on an especially constructed objective test made by 16 seniors, 16 juniors, and 16 sophomores varied roughly on the basis of 9th grade English marks, chronological age, Sims Socio-economic index, and Miller and Pressey mental tests. These students were taught classes made up heterogeneously of seniors, juniors and sophomores.

Sec. 2. Gains, percentages of possible gains and final test scores on the objective test 25 sophomores, 25 juniors and 25 seniors closely varied on the factors mentioned above taught in separate sections in as nearly the same manner as reasonably considering the differences in ages.

The tests used consisted of 93 multiple choice, 50 completion, and 17 matching exercises including 60 items from the Wesley Test on Terms in Social Studies. The reliability of the test was calculated to be .932 for the 75 students and at the end of the course.

Findings and Conclusions.—

I. The preliminary study-status of economics in Minnesota High-Schools.

1. Offerings—Of the 422 schools in the state, 280 or 66% offered courses in one or more courses in social studies. Sixty schools offer courses in Social Problems, 43 in Introduction to Social Science and 24 in Economics. In all these schools, therefore, as well as 27 others giving year courses for the

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12th grade students, 154 in all teach some economics. When offered as a part of a course in social science, usually 10 to 12 weeks are devoted to the study of economics.

2. Enrollments in economics—Eighty per cent of the students enrolled for economics were seniors, 18% juniors and 2% sophomores. As to sex, the division was 50.1% boys, 49.9% girls.
3. Opinion as to grade placement—Of 106 teachers replying 72 stated that only seniors should be enrolled; 2 would offer it for juniors; while 32 would permit pupils of both years to enroll.
4. Texts—The texts used most frequently where economics was offered as a separate course were Thompson's Elementary Economics, Sanborn, 1924—11 schools; Faubel, Principles of Economics, Harcourt Bros. 1923—4 schools. Where offered as a part of another course: Arnold's Problems in American Life, Row, 1928—17 schools; Hughes, Problems of American Democracy, Allyn & Baer, 1922—16 schools; Williamson's Problems in American Democracy, Heath, 1924—16 schools; Magruder, American Government, Allyn & Baer, 1927—15 schools; Towne, Social Problems, Macmillan, 1924—12 schools.

II. The experimental study of relative achievement of paired sophomores, juniors and seniors.

1. Preliminary unit—16 sets of pupils:

	Median Gain	Mean Gain	Percentage of Gain
Sophomores	31.0	25.3	18.0
Juniors	21.0	21.4	16.3
Seniors	15.5	18.4	16.4

The greater gross gains of the sophomores and juniors was no doubt due largely to the fact that due to lower initial scores, the gains were made in the easier ranges of the test.

2. Main unit—25 sets of pupils:

	Median Gain	Mean Gain	Percentage of Gain	Mean Final Score
Sophomores	48.0	47.2	43.9	94.7
Juniors	50.0	48.8	48.3	106.8
Seniors	43.0	41.2	46.9	114.2

None of the superior gains of the juniors or of the sophomores to the seniors on median or mean gain, of the seniors to the sophomores on per cent of gain were "statistically significant." It should be noted that while no significant dif-

ferences as to gains and per cent of gains were obtained, the final mean score of the seniors was greatest and that of the sophomores least, though by not "statistically significant" differences.

Humphrey, Alice Wise. *A Study of Certain Leisure Time Activities and Financial Practices in the Homes of Minnesota High-School Girls.* 1931.

Problem.—The study is fundamentally concerned with the devising of a new course of study in home economics for girls in the high-schools of Minnesota. Its immediate purpose is "to determine the extent to which leisure time is being well spent or misspent; the need for a definite place in a new course of study for training in the profitable use of leisure time and a development of desirable attitudes toward, and the cultivation of an appreciation for worthwhile activities; and the degree of emphasis desirable to be placed upon both home and personal financial practices."

Data and Technique of Investigation.—The data comprise a portion of the material collected by the Minnesota State Department of Education in its state-wide survey of the home activities of high-school girls, and consist of the replies of 6380 girls in 91 schools in 86 towns and cities in the state to questionnaire. The questionnaire was sent to 10,000 girls in 110 schools.

In tabulating the data two factors were isolated—the size of town and the amount of previous home economics training. The 18 items of the study were divided into two groups; Group I contains four sub-headings: (1) Is it usually done in your home? (2) Do you help to do it? (3) Do you do it alone? (4) Do you like to do it or think you would like to do it? Group II has the following sub-heads: (1) Does the family do it regularly? (2) Do you do it regularly? (3) Do you like to do it or think you would like to do it? Comparisons are presented between girls who have had no home economics training, girls who have had the work in grades 7 and 8, and girls who have had training in grade 9 or above.

Findings and Conclusions.—

1. With respect to financial practices, the author reports the following findings:
 - (1) "There is more account keeping, both personal and household, than there is budgeting.

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- (2) There is a higher percentage of participation in all of these financial activities carried on in the home than by the girls themselves.
 - (3) Allowances greatly stimulate account keeping among the girls.
 - (4) The size of the town has little or no effect upon the girls' participation, attitude, or independence of work in these financial practices with the exception of the group which includes Minneapolis, where account keeping is required.
 - (5) The girls having had training in the ninth grade or above are more interested and do more than those with less training.
 - (6) Other studies show about the same or slightly less participation in account keeping than is indicated by the data from the Minnesota survey.
 - (7) The percentage of participation in the ninth grade appears to be typical of the situation throughout the high-schools in Minneapolis."
2. With respect to leisure time activities, the findings are:
- (1) "There is a higher percentage of participation in the homes than among the girls in all items except outdoor sports, club activities, reading books.
 - (2) Among the activities in which the family engages, club activities is lowest and reading newspapers is highest. A similar situation prevails among the girls, where club activities and attendance at lectures and concerts is next to the lowest, while reading books and newspapers rank above all other items.
 - (3) The appeal of the movies is equally strong to the families as to the girls themselves, as it is the one item having the same percentage of participation for both groups.
 - (4) There is a considerable number (67%) of the families and girls (49%) who find enjoyment in family outings of one kind or another.
 - (5) The radio has not entirely taken the place of musical performance in the home, for 2% more girls perform on some musical instrument than the number who run a radio and 9% more girls desire to perform than are able to do so.

- (6) Activity in outdoor sports among the girls ranks fourth in participation and second only to reading newspapers in interest.
- (7) There seems to be an active interest in entertaining guests and a certain degree of interest in taking part in community affairs.
- (8) The size of the town seems to exert a slight influence upon participation and interest in certain activities carried on in the home, namely, reading, running a radio, musical performance and guest entertainment, as the percentage of participation increases with size of the town.
- (9) This is also true in the case of several leisure time activities carried on outside the home.
- (10) City dwellers greatly enjoy family outings as a form of recreation, as 75% engage in this activity in comparison with 63% in towns under 1000.
- (11) Automobiles definitely affect the percentage of participation and interest in activities outside the home among the girls and their families.
- (12) The school has apparently made some effort to train in this direction as there is more interest shown on all but two of the activities by the group having had home economics training in high-school than there is in the group without training.
- (13) Even though the type of entertainment represented by concerts and lectures is more accessible to the city dwellers than to those out in the state as a whole, this item ranks the lowest in percentage of participation among the city dwellers as well as among those out in the state; while attendance at movies ranks about the same for both groups.
- (14) In Minneapolis, 92% of the girls entertain guests, while out in the state 50% of the girls and 71% of their families do so; however, this activity ranks first among the girls in all groups.
- (15) Participation in leisure time activities in Minneapolis is greater than in the state as a whole and quite fairly represents a large city situation."

McArthur, Laura J. *A Study of the Home and Family Situations of High-School Girls.* 1933.

Problem.—This study attempted to obtain a picture of the characteristics and practices of typical homes and of the home responsibilities and interests of adolescent girls, with a view to curriculum modification.

Data and Technique of Investigation.—Data were obtained from questionnaires answered by 731 ninth-grade girls during 1930-31. Questionnaires were sent to 27 schools in Minnesota and South Dakota, which had been selected as representing different geographic locations and towns of various sizes. Because of the intimate nature of many of the questions, it was deemed necessary to secure in advance the permission of the superintendent and to discover how many students he and his home economics teacher agreed should be used in the study. This procedure probably explains the fact that practically 100 per cent returns were received.

Findings and Conclusions.—

Characteristics of the homes of these girls—

1. Two-thirds of the families owned their own homes, but only half of those in large cities did in contrast with from 72 to 80 per cent in towns under 5,000 population.
2. Most of the houses were from 10 to 25 years old and a fifth of them were more than 25 years old.
3. Many homes lacked modern conveniences; half of those in towns of less than 1,000 population used kerosene lamps; a third of the homes lacked running water; 40 per cent had refrigerators and only 6 per cent had the electric variety; except in a very few cases, gas was not used for cooking in towns under 5,000 population and only 11 per cent used electricity for this purpose. Two-thirds of the homes had electricity; apparently the first electric equipment purchased is the iron (64 per cent), then the washing machine (54 per cent) and then the vacuum cleaner (41 per cent). Eighty per cent had sewing machines.
4. The activities which were most enjoyed by the family as a group ranged from entertaining friends for the evening (70%) to working together outside the house (36%); between these extremes were listed listening to the radio, riding in the auto, reading silently, going on picnics, and doing housework.

5. Fifty-six per cent had telephones and 78 per cent had autos.

Common practices in the homes—

1. Laundry work, cleaning, canning, and food preparation were carried on in most of the homes.

2. Two-thirds of the families ate most of their meals in the kitchen—a situation which emphasizes the question of devoting much attention to formal meal service.

3. Only a third of the girls had bedrooms alone and an equal proportion shared them with more than one other person.

4. Almost all of the families subscribed to newspapers and magazines, two-thirds taking three or more periodicals and a city paper in addition to the local paper.

5. A fourth of the girls had allowances (36 per cent in large cities); almost two-thirds earned money and most of these had it for their own use; about an equal proportion had savings accounts.

Home responsibilities of the girls—

1. Three-fourths of them occasionally had the responsibility for running the house and seven per cent of them carried this responsibility all the time.

2. Almost 80 per cent assisted with the housework; from 36 to 90 per cent did their own mending, from 36 to 86 per cent did their own ironing, and from 23 to 85 per cent did their own washing—the lower percentage in each case being in the large city group.

3. More of these girls earned money by caring for children than in any other way—about 40 per cent on the average (55 per cent in large cities); but a much smaller percentage indicated an interest in learning about how to care for children, and the greatest interest was expressed in studying child behavior problems and suitable games and stories for children.

Interests and habits of girls—

1. Almost half of them were interested in selecting their clothes while about a third were interested in family nutrition and in learning how to arrange equipment more conveniently in their homes. Only 8 per cent failed to express an interest in furnishing or re-arranging one or more rooms and the largest proportion wished to improve the living room.

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2. The greatest interest was expressed in certain personal problems: learning how to entertain their friends, looking attractive, being well-dressed, knowing accepted social customs (etiquette), being popular with girls and with boys, keeping well, and learning certain sex information.

3. Less than half of them belonged to any club or other similar organization.

4. More rural than city girls were interested in learning how to select books (43 in comparison with 28 per cent) and pictures (43 in comparison with 24 per cent).

5. A much larger percentage of city than of rural girls drank milk regularly (64 as contrasted with 40 per cent.) From 75 to 90 per cent regularly ate fruit and vegetables other than potatoes.

6. One of the most interesting findings was that quite consistently a larger proportion of those who stated that their families enjoyed hearing about the "doings" of the different members indicated an interest in the following home problems, than of those whose families lacked this element of solidarity: family recreation, parental control, reasons for family happiness and irritability, and the satisfactory division of the family income.

Olson, Ruth I. *Trends of the Changes in the Content of Ninth Grade Mathematics Which Have Taken Place in the Last 35 Years.* 1930.

Problem.—The purpose of the investigation was to furnish the data for making certain comparisons, and to show from these data the trend of the changes which have taken place in the content of ninth grade mathematics from 1895 to 1930.

Data and Technique of Investigation.—Three periods were considered, and referred to as the early (1895-1900), middle (1910-1915), and recent (1924-1929). Thirty books were selected, ten from each period, on the basis of number of schools using the books. These were analyzed by topics to determine the percentage of space devoted to each topic of algebra. These percentages were compared to discover trends as indicated by changes in the percentage of space allowed to each.

The tendency with respect to changing emphasis was also investigated in certain groups of topics classified according to

recommendations of writers and agencies active in the field. These groups are as follows:

Group A: The "core topics" generally considered as being the essentials in algebra include fundamental operations in integers and fractions, parentheses, evaluation, factoring, special products, linear equations, simultaneous equations, powers and roots, and arithmetic square roots.

Group B: Topics recommended by writers in the field for decreased emphasis. These include quadratic equations, literal equations, radicals and surds, ratio and proportion, variation, highest common factor and least common multiple, and theory of exponents.

Group C: Topics recommended for omission. These consist of the complex cases in factoring, parentheses, fractions, simultaneous equations, and equations of higher degree than the second, as well as various theorems.

Group D: Topics recommended for increasing emphasis. These are graphs, numerical trigonometry, statistical measures, and intuitive geometry.

The statistical significance of the differences found in the comparisons among the three periods was determined by the use of Fisher's method for use with means obtained from small samples.

Findings and Conclusions.—There was no evidence of any consistent change in the proportions of space devoted to topics considered as essentials in (Group A). From the early period to the middle period the percentage of space devoted to this group diminished from two-thirds to one-half of the text, and rose to seven-twelfths in the recent period.

While there were some changes in Group B those recommended for decreased emphasis were not statistically significant, and may very well have been due to errors of sampling. There was a distinct tendency towards decrease in the space allotted to topics in Group C, those recommended for omission. The decrease in space allotted to topics in Group C is paralleled by an increase in space allotted to topics in Group D, those recommended for increased emphasis. This group increased from less than one per cent to thirteen per cent between the first and middle periods, and to twenty per cent in the recent period.

The general aspects of the content of ninth grade mathematics, as revealed by the comparisons, together with con-

sideration of the recommendations of various authorities, indicate that a desirable textbook for use at the present time would be one in which the contents were distributed about as follows: Group A, about 60 per cent of the space, Group B, 14 to 17 per cent of the space, Group C confined to complex fractions, and included only for college entrance requirements. The remainder of the material would be derived from Group D. While some of the topics in this group have been more widely accepted than others, the entire group, representing as it does, an effort to increase the immediate and practical values of the subject, has found a permanent and important place in the subject-matter of the course. From it would be selected a reasonable amount of historical and biographical notes, and portraits, a rather full treatment of the formula, statistical measures, graphing, trigonometry, and possibly logarithms and the slide rule.

Moos, Gretchen Ann. *Organization of Music Education in Minnesota 1929-1930.* 1930.

Problem.—This study purposes to survey the opportunities for music education in the high-schools of Minnesota.

Data and Technique of Investigation.—Questionnaires were sent to 500 high-schools in Minnesota; 131, or 26 per cent, responded.

Findings and Conclusions.—

A. Curriculum Practices—

1. Of 22 music subjects which were offered, only 5 were included in the programs of more than 25 per cent of the schools reporting. The 5 were: Girls' Glee Club, 87 per cent; Boys' Glee Club, 54 per cent; Orchestra, 53 per cent; Band, 48 per cent; and Mixed Glee Club, 26 per cent. Other subjects were offered by 2 to 20 per cent of the schools.

2. Of the schools reporting, 32 per cent stated that credit in music is accepted toward graduation.

3. In 75 per cent of the music classes less than 40 pupils were enrolled.

4. Sixty-two per cent of the music classes are scheduled during school hours.

5. One-tenth of the music classes meet for less than an hour a week.

6. "Cultivation of good musical taste and desire" is considered as the most important objective.

B. Practices regarding equipment—

1. Only two basal song books were used by more than 7 per cent of the schools. They were: *Music Education Series*, 34 per cent; *Progressive Music Series*, 23 per cent.

2. Ninety-five, 85, 57, and 33 per cent of the schools have pianos, phonographs, books on music theory, and radios, respectively.

3. Forty-four per cent of the schools reported that instruments were available for student use; 48 per cent stated that instruments were not available.

4. Out of 44 per cent of the schools reporting instruments, 39 per cent lend them to the students, the others renting them to the students.

5. More brass and percussion instruments were reported than all other choirs combined.

6. The schools own more solo instruments than inner voices.

7. Fifty-four per cent of the schools make some provision for teaching instrumental technique.

C. Public and out-of-school opportunities for music education—

1. Operettas and assembly programs, reported by 74 and 75 per cent of the schools, respectively, are the most frequently reported types of public appearances.

2. Forty-four per cent of the towns involved imported musicians for concerts and lectures; 45 per cent did not.

3. Seventy-two per cent of newspapers in the towns involved do not devote space regularly to music.

4. In 67 per cent of the towns, facilities were available for adequate private piano instruction; in 40 per cent, for band; and in 37 per cent, for strings.

D. Administrative status of music teachers—

1. Only 3 per cent of the schools reported that courses are taught by a person who is not a member of a school faculty; 71 per cent stated that courses are taught by a faculty member.

2. Thirty-three per cent of the schools indicated that music teachers were part-time instructors; 41 per cent stated that they were full-time instructors.

3. English and history are the subjects other than music most frequently taught by the music teachers studied.

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4. The median and modal number of other subjects taught in combination with music is two.

Summary.—1. There is a lack of standardization of the music curriculum in Minnesota schools.

2. The emphasis on a few subjects in the small schools is a favorable practice, because too much diversification of activity would result in a loss of quality and thoroughness.

3. Data from previous investigations indicate more music activity than is revealed by this study.

4. Mixed Glee Club or Special Chorus offers a desirable field for expansion to many schools.

5. The status of music education in Minnesota high-schools is semi-curriculum.

6. Although music supervisors favor cantatas rather than operettas, the latter predominates.

7. The private instruction available in most towns is meager.

8. Because most of the music teachers were found to be faculty members, it is apparent that music activities may be easily correlated with those of other classes.

Rose, Ella J. *Analysis of Home Economics Textbooks in Secondary Schools.* 1927.

Problem.—The investigation was made to determine which home economics books were used widely in secondary-schools and to set up certain criteria by means of which to evaluate such textbooks.

Data and Technique of Investigation.—A list of 147 home economics books published between 1915 and 1926 was checked by 62 per cent of 412 home economics teachers in Minnesota to indicate which of these books and how many copies of each were in use in their schools, as well as the characteristics which they would like textbooks to possess.

A second check list describing the mechanical characteristics found in the texts in common use and the content of these books was filled out by 67 per cent of a group of 399 home economics high-school teachers, teacher trainers, city and state supervisors, and authors of home economics texts.

It was assumed that a book of which there were less than ten copies in a school should be regarded as a reference book; hence only those books were tabulated which appeared in quantities of ten or more in a school, with the number of

schools using each book. Then from this list all books were eliminated which were used by less than five schools.

The twenty books that remained after these eliminations were analyzed on the basis of the number of lines devoted to the various phases of subject matter; these data were converted into number of pages, and finally into the percentage of the whole book. The amount of space devoted to illustrations and other graphic material was also converted in a similar way.

Findings and Conclusions.—In 1926, 325 different books were in use in home economics classes in Minnesota high-schools and fifty of these were apparently used as texts; in the majority of cases they were furnished by the school. The analysis of textbooks revealed that the more recent books, as contrasted with those published toward the beginning of the decade, devoted proportionately less space to food composition and recipes, and more space to nutrition, marketing, and meal planning; and a trend was evident toward a reduction in the amount of space devoted to clothing construction processes and the history, sources, and production of textile fibers and an increase in the space devoted to clothing selection.

There was a great variation in the content divisions of the different books: the proportion of space given to subject matter ranging from 66.9 per cent to 92.3 per cent, that allotted to teaching aids and methods ranging from 2.4 per cent to 25.8 per cent, and that allotted to graphic material ranging from 3.7 per cent to 24.4 per cent.

No one book included subject matter dealing with all of the material which it is rather generally agreed should be taught in homemaking courses; content dealing with child development was particularly inadequate.

The majority of the home economists who expressed their opinions indicated that they wished secondary-school textbooks to have the following characteristics:

1. Average size (5x7½ or 8 inches).
2. Not too heavy to be held comfortably in one hand.
3. Cover of middle value or darker, with simple, straight line design; large, plain printing which showed a moderate contrast with the cover; brief title on both front cover and back of book.
4. Thick, durable cover; but binding on back flexible enough for book to stay open easily.

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5. Paper of slightly cream color, medium thickness, moderately tough, little or no glaze (except in case of illustrations), and with no imprint visible from the reverse side.
6. Paragraphs of average length with conspicuous headings.
7. Few or no footnotes.
8. Many illustrations in black and white, each numbered and carrying a legend; arranged either one per page or grouped to form a unit, rather than scattered; referred to specifically in content; and having *teaching* value.
9. Detailed index; table of contents, including both chapter and topic headings; a list of illustrations; and a summary at the end of each chapter or unit.
10. Few, well-chosen references, planned for students' rather than for teachers' use and listed at the end of each chapter or unit.
11. Chapter or topic rather than lesson organization.
12. Suggestions, either at the beginning or the end of each unit, for problems and projects, especially those relating to the home.
13. Few experiments, simple in character, interpolated in the text material at appropriate points, and planned to be performed by the students.
14. Standard recipes with indication of number they will serve and with ingredients listed apart from directions, interpolated in text material, rather than segregated in one section of foods book.
15. Vocabulary adapted to age of students and involving fewer technical words than most books in use.
16. Texts for junior high-school should arouse interest in homemaking activities and should include in one book more phases of subject matter than do those for senior high-school. On the other hand, the senior high texts should place greater emphasis upon principles and their application to homemaking problems and upon selection rather than doing.

Wiseman, C. R. *Factors of Establishment and Discontinuance of Departments of Agriculture in Public High-Schools, 1929.*

Problem.—The purpose of this study was to determine the main factors apparently responsible for the discontinuance of agricultural departments in Minnesota with the idea in mind

that these findings would serve as a guide to setting up a list of satisfactory criteria for the proper placement and administration of agriculture departments. Thus guidance and direction for the future were sought in the mistakes and failures of the past in the discontinuance of these departments.

Data and Technique of Investigation.—High-Schools having agriculture departments 1918-19—1926-27 were considered. These comprise two groups: those where agriculture continued and those where agriculture discontinued. Comparisons and contrasts of the two groups were made. Enrollment in high school was used as a measure of size and was found to be a significant factor and basic to several others. In the main, two kinds of data were secured: factual and judgments of strategic people. The strategic people were those who had first hand knowledge about specific cases, as the superintendent of schools, the last agriculture instructor, the state supervisors, and the school board members.

The factual data were secured largely from official records and reports and included the usual information kept on file in the office of the state department of education. Additional data were secured from questionnaires, personal letters, and by personal visitations.

From the data gathered, the appraisal was made of various factors as bases for comparison and evaluation of the causes for continuance or discontinuance of agriculture departments.

Findings and Conclusions.—

1. There was a rather significant tendency in Minnesota to place agriculture departments in medium and larger high schools of the state—those of 100-200 and 300 pupils enrollment rather than placing it in the smaller ones of 50 pupils in size.

2. There is a somewhat larger mortality of agriculture departments in the smaller high schools—those under 100 pupils than in the larger high schools—those of 200 or 300 pupils in size.

3. The mortality of agriculture departments is somewhat higher where the assessed valuations are down below $\frac{1}{2}$ million dollars.

4. When agriculture is placed in smaller high schools, it is much more frequently placed in consolidated schools than in non-consolidated schools.

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5. Agriculture departments persist much better in smaller high schools consolidated than in smaller high schools not consolidated.

6. The average tenure of the agriculture instructor in the discontinued departments was 1.82 years as against an average tenure of 3.1 years in the continued departments.

Other significant causes of discontinuance revealed largely through the reports of strategic people were:

1. Low enrollment in agriculture.
2. Retrenchment in the school.
3. Too frequent change of agriculture instructor.
4. Inadequate recruiting of agriculture students.
5. Ineffective work of agriculture instructor in classroom and in community.
6. Negative or neutral attitude of farm folk.
7. Lack of support of the department by the superintendent.

The following are somewhat typical of the set of principles derived for placement and administration of high-school departments of agriculture:

1. Choose a reasonable sized high school—one of more than 100 pupils rather than one of fewer.
2. Select a reasonable sized assessed valuation—surely more than \$500,000 and \$1,000,000 is better.
3. Neither too high nor too low tax rate seems conducive to continuance of agriculture—30-40 mills was best in Minnesota.
4. Where agriculture is placed in the smaller school, a consolidated school has a distinct advantage.
5. New departments should be placed where the superintendents are vitally interested in the work—ready and capable of helping the agriculture instructor.
6. The agriculture department should develop at least two or three other legitimate activities of the agriculture department besides the regular agriculture classes.
7. Periods when there is a change of superintendent at the school or change of agriculture instructor appear crucial in the life of the department.

8. Schools should be chosen in which the superintendent and the patrons of the school have a favorable attitude toward the department.
9. Agriculture should be the dominant occupation of the school patrons.
10. The enrollment of farm boys should be twenty or above.

PART III

Supervision and Methods of Instruction

Ladenburg, E. Amanda. *The Study of the Reliability of the Morrison Attention Checking Technique.* 1929.

Problem.—This investigation seeks the answer to the following question, Is the Morrison technique as reliable when the index is based upon observations made at two, three, four, or five-minute intervals as when the index is based upon observations made at one-minute intervals?

Data and Technique of Investigation.—Seventy-eight classes in six junior high schools in Minneapolis and two suburban schools were visited by the author for the purpose of applying the Morrison technique. Over 2300 pupils were enrolled in these classes. The author visited classes in nearly every subject field taught as well as observing fifteen study-hall periods.

Under the original Morrison technique the checker at regular intervals checks the inattentive pupils. At the end of the period these checks are counted and a ratio is obtained for attention and non-attention. This ratio is generally expressed as the "percentage of attention."

In this study a device, planned by Professor Leo J. Brueckner of the University of Minnesota was employed in which by means of a blank seating chart, the checker can also keep a record of the inattentive pupils individually.

Findings and Conclusions.—In the 78 classes visited by the author attention was checked at one, two, three, four, and five minute intervals. Percentages of attention of each period were computed. When the one minute interval was a criterion it was found that the median variation in percentage for the 78 classes was only 2.5 per cent for three-minute intervals, 2.0 per cent for four-minute intervals and 2.57 per cent for five-minute intervals. This shows quite conclusively that it makes little difference whether inattention is checked at one-minute intervals or at any other interval up to five-minute intervals.

The investigator also presents some interesting comparisons regarding attention in various subjects. In foreign lang-

usage the average rating was 95.04; English 93.44 per cent; social studies 93.16 per cent; mathematics 92.35 per cent. The average percentage of attention in fifteen study hall groups was found to be only 87.28. It was found that attention ratings in the forenoon were much higher in the study hall than in the afternoon.

Stallard, B. J. *Supervised Study in Ninth Grade Algebra.* 1932.

The Problem.—The experiment was intended to compare achievement under one plan involving long assignments with study sheets, and no regular daily recitation, with another plan where the period was divided equally into recitation and study parts respectively.

Data and Technique of Investigation.—

(1) The experiment was carried on in the Junior High School at Wauwatosa, Wis. during the first semester of the school year 1931-32. The school program employed a lengthened period of sixty minutes together with a form of homogeneous grouping.

(2) The arithmetic ability scores were obtained from the Stanford Achievement Tests.

(3) The intelligence quotients of the students were obtained by the use of the Oties Self-Administering Test of Mental Ability—Form A.

(4) The achievement of the students was determined by the Douglas Standard Survey Tests.

The students were paired on the basis of I. Q., arithmetic achievement, C. A., and sex. There were two main groups, divided according to high and low intelligence, with 24 pairs in each group. Each of these groups was sub-divided into two equally paired classes one of which operated under a plan involving long assignments with study sheets and no regular daily recitation. In the other class each period was divided equally into recitation and study parts respectively with daily assignments. A test was given to all the students at the end of each assignment period. The experiment was concluded at the end of the first semester but a test was given at the end of the year to determine the second semester progress. An initial test was given before any formal instruction and the second form of the test was used as a final test. In order to compare the achievement of the two groups the difference between mean

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gains, the standard deviation of gains, the standard error of the mean gain, the correlation between gains, the standard deviation of the gains of individuals, and the standard error of the difference between mean gains was computed from the data.

Findings and Conclusions.—In the group of students of higher intelligence the results were in favor of the class which followed the long assignment plan of supervised study. In the lower intelligence group the results favored the class which followed the daily recitation and supervised study plan.

In the brighter group the chances were 97 in 100 that the true difference in gain was greater than zero as far as chance errors of sampling and measuring are concerned. The percent of superiority, being 15%, was large enough to indicate a substantial difference. In the slower group the chances were 83 in 100 and the percent of superiority 7%.

Summary.—

- (1) A unit-type of assignment with mimeographed instructions and supervised study is a feasible arrangement.
- (2) A large amount of time spent in recitation and oral discussion is not essential to pupil progress in Algebra.
- (3) The ninth-grade pupils in this experiment seemed capable of proceeding in Algebra guided by printed directions.
- (4) Neither plan proved superior by an indisputable margin, although the difference in favor of the unit-type assignment with supervised study for the brighter students was found to be fairly significant.

PART IV

Guidance, Failures, and Elimination

Abrahamson, Ada. *The Relation of the Pattern of the High-School Student's Course to His Success in College.* 1930.

Problem.—This investigation attempted to find objective evidence of the relationship between the pattern of the high-school course and success in college work. Special attention was paid to the group having a "vocational" pattern.

Data and Technique of Investigation.—

(1) Data were obtained from records in the registrar's office of 385 University of Oregon students who completed five consecutive terms.

(2) Data regarding high-school record was obtained from transcripts submitted to the University at time of entrance.

(3) Data regarding industry of students while in high school was obtained by means of a rating sheet filled out by the high-school principals in the schools from which the students concerned were graduated.

In order to determine the relationship existing between college marks, high school marks, quantity of work done in high school in various subjects, the evidence of industry on the part of the student, and his intelligence, zero order, partial, and multiple correlations were obtained from the data.

College marks were averaged for the five quarters in the various subjects. High-school marks were averaged for different subjects. Quantity of work done in high school was evidenced by the number of units given on the high-school transcript. An "index of high-school work" which combined quantity and quality of work was obtained by "multiplying the number of units of a subject and the mark received in the subject." Intelligence ratings were obtained by means of the American Council in Education Psychological Test.

Findings and Conclusions.—

HIGH-SCHOOL MARKS RELATED TO COLLEGE MARKS

HIGH-SCHOOL MARKS	Correlation Coefficient	Probable Error
English .....	.494	.025
Foreign Language .....	.460	.028
Mathematics .....	.437	.028
Natural Science .....	.540	.024
Social Science .....	.441	.028
Vocational .....	.365	.033

The correlations found in this table compare favorably with those found by earlier investigators such as Gilkey, Jones, Bolenbaugh and Proctor, and Lauer and Evans.

NUMBER OF YEAR UNITS OF HIGH-SCHOOL WORK AND COLLEGE MARKS

HIGH-SCHOOL MARKS	Correlation Coefficient	Probable Error
English .....	.053	.034
Foreign Language .....	.170	.033
Mathematics	-.016	.034
Natural Science	-.011	.034
Social Science	-.040	.034
Vocational .....	.034	.034

It is shown that the amount of foreign language taken in high-school has a higher relationship to college marks than the amount of any other subject. This in line with the findings of Yates and Sorenson's study of the same variables.

HIGH-SCHOOL INDEX (UNITS X NUMBER) AND COLLEGE MARKS

HIGH-SCHOOL INDEX—	Correlation Coefficient	Probable Error	Corrected r
English .....	.039	.034	.041
Foreign Language .....	.231	.034	.239
Mathematics .....	.124	.033	.128
Natural Science	-.066	.034	-.006
Social Science	-.015	.034	-.015
Vocational	-.042	.040	-.043

The quality of work done in high-school was obviously more important as preparation for college than the quantity of work taken in high school.

Neither the quantity nor the quality of high-school work indicated that any subject was significantly superior to another as a prerequisite for college.

By means of the technique of partial correlation the relationship between high-school marks and units of credit in the various fields were studied, with industry and intelligence held constant.

CORRELATIONS BETWEEN NUMBER OF HIGH-SCHOOL UNITS AND INTELLIGENCE

	Intelligence
English .....	.070
Foreign Language .....	.293
Mathematics .....	.207

Natural Science	- .062
Social Science	- .119
Vocational	- .140

It is evident from the data that the brighter students took more mathematics and foreign language than students of average ability.

CORRELATIONS BETWEEN COLLEGE AVERAGE AND THE NUMBER OF HIGH-SCHOOL UNITS, WITH INTELLIGENCE AND INDUSTRY HELD CONSTANT

	1 r ₁₂	2 r _{12.3}	3 r _{12.4}	4 r _{12.34}
English .....	.053	.025	.031	.007
Foreign Language .....	.170	.047	.151	.042
Mathematics	-.016	-.126	-.031	-.126
Natural Science	-.011	.019	.010	-.034
Social Science	-.040	.015	-.043	.007
Vocational .....	.034	.110	.064	.127

1. College marks. 2. Number of High-School Units. 3. Intelligence.
4. Industry.

Upon partialing out the effects of both industry and intelligence it was revealed that there was materially no relation between the number of units in high-school subjects and college success. The highest partial, .127, obtained between college marks and number of units in vocational subjects may have been influenced by the fact that it included a high percentage of special students and majors in business administration.

No combination of units of high-school work when correlated with college achievement gave objective evidence that colleges were wise in requiring definite amounts of certain subjects combinations.

In general the evidence is clear cut and shows by all three methods of correlation that,

1. The number of credits a student had of a subject was of much less importance in predicting college success than the quality of work done in the subject.

2. No pattern of high-school work was found that indicated any subject or group of subjects as superior for preparation for college.

3. No evidence was found that suggested that having taken vocational subjects in high-school lessened a student's ability to do college work.

The conclusions seem to be well supported by the data, and inasmuch as they agree with previous investigations, generalizations from the data are probably possible.

Campbell, Ina S. *Case Studies of Term Failures in the Junior High-School.* 1932.

Problem.—This investigation is the case method type in which an attempt is made to ascertain the causes of failures in the junior high-school.

Data and Technique of Investigation.—The problem concerns itself with 37 term failures and 102 promoted pupils in the Wendell Phillips Junior High-School in Minneapolis, Minnesota.

For the purposes of the study a large amount of information was obtained about each student. These data included teachers' marks, teachers' reports regarding pupils, pupils' permanent record cards, school health data, intelligence test data, Sims Socio-economic score card, Haggerty-Olson-Wickman Personality rating card, over-age table, interest blanks, and the Stanford Achievement Test—Higher Form. These data were supplemented by a personal interview with the child.

Findings and Conclusions.—The number of failure boys exceeds the number of girls by 24.3 per cent.

The average age of the seventh grade failure is 14 years and 5 months, which is eighteen months higher than that of the average pupil in the seventh grade. In the eighth grade the average failure is 15 years one month of age, which is sixteen months more than the average eighth grader. The age of average ninth grade failure is 15 years 10 months, thirteen months older than the average ninth grade pupil. Seventy-five per cent of the failures are from six months to thirty-six months over-age for their grades.

Eighty-nine and two-tenths of the failure pupils have repeated one or more grades.

While absence from school is greater with failure pupils than with the promoted pupils, it is not the chief cause for failure, as one half of them were absent not more than 15 days out of a total term of 92.5 days.

Physical defects cause individuals to fail but poor health is not a chief cause for failure in the junior high-school.

The average I. Q. (Otis Self-Administering, Higher Form A) of the failure boys was 100.11; the average I. Q. of the

boys in the control was 102.31. The average I. Q. for failure girls was 93.21; the average I. Q. for control girls was 101.72. These data would indicate that low intelligence is more of a factor in the failure of girls than in the failure of boys in junior high-school. However, differences in I. Q. are so small between the control groups and the failure groups that one realizes that intelligence is not the sole criterion of success or failure. If one accepts an I. Q. of 90 as being sufficiently high to carry on high-school work it seems that fully three-fourths of the failures should be able to do passing work.

In order to ascertain the relation between socio-economic status and failure the failure pupils filled out the Sims Socio-economic Score Card. This instrument was used because it has been widely used in Minneapolis and norms are available for the city. On the basis of percentages, none of the failure pupils rank in the upper one-fourth of the scale, whereas 14 per cent of the retained pupils do. 40.54 per cent of the failures rank in the lower fourth of the scale, while only 6.3 per cent of the retained pupils rank in that quartile. The differences between the mean score of the failure pupils (11.32) and the mean score of the retained pupils (18.63) is 7.31 points or 1.72 standard deviations of the scores of the promoted group.

By means of the Stanford achievement test the writer demonstrated the apparent validity of the failures by showing that the failure group stands lower on this test than the promoted group. However in some individual cases the failed child stood higher than the test norm for his grade.

This investigation while it deals with relatively small numbers is carefully done. The author has reviewed an enormous amount of related literature and compares her data with it where ever possible.

The writer points out that the chief value in such a study is that it points out that one may detect "failure patterns" early and provide the type of school work in which the child may be able to succeed. Home environment seems very closely associated with failure and the school should not be lax in ascertaining the status of each child.

Harcy, Sister Yvonne. *A Study of General Intelligence and Other Factors Related to Success in Plane Geometry.* 1927.

Problem.—Inasmuch as several studies have shown that ability in geometry is not correlated closely with ability in al-

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gebra, it is the purpose of the study to discover to what extent, intelligence, memory for images, constructive imagination, and the power to reason and arrive at a conclusion are related to proficiency in plane geometry.

Data and Technique of Investigation.—The subjects used in this study were 105 female students in plane geometry in St. Joseph's Academy, St. Paul, Minnesota.

Intelligence quotients were derived by averaging the quotients obtained from giving the Terman Group Test of Mental Ability twice with an interval of seven months.

Memory for images was tested by Whipple's Digit Span Test. The power of constructive imagination was tested by Starkbridge and Trabue's "Mentimeter No. 5"; "Painted Cube Test" and Rugg's "Geometrical Objects Test."

Reasoning power was tested by the Miller Analogies Test.

The Schorling-Sanford Achievement Test in Plane Geometry was used to measure success in plane geometry.

All tests had reliability coefficient above .78, sufficient for accurate group comparisons.

The investigator developed a regression equation based on the various tests and attempted to prognosticate the score on the Schorling-Sanford test.

Findings and Conclusions.—

COEFFICIENTS OF CORRELATION

	I. Q.	Digit Span	Miller Analogies	Mentimeter 205
Schorling-Sanford	.46	.02	.53	.41
I. Q.		.21	.65	.35
Digit Span			.31	.13
Analogies				.29

When mental ages were related to scores on the Schorling-Sanford test the coefficient was found to be $.50 \pm .05$ which indicates "a fairly high relationship."

By means of a regression equation in which X_g (Schorling-Sanford Score) = $.09X_1 + \text{Terman I. Q.} + .294 X_2$ (Miller Analogies Score) + $80X_3$ (Score on Mentimeter No. 5) — 8.31 it was possible to show that a predicted score of 15 or less invariably pointed out a student who actually failed in plane geometry.

The multiple coefficient of correlation R_1 (234) = .61, standard error of estimate = 6.447.

1. Schorling-Sanford.

2. General Intelligence.
3. Analogies.
4. Multimeter No. 5.

Murray, Dottie E. M. *A Survey of the Personnel and Present Practices in the Field of Girls' Advisory Work in Two Hundred Small High-Schools in the Pacific Northwest.* 1930.

Problem.—The major purpose of the study is an analysis of the trend of activities developing in small secondary schools under the general title of girls' advisory work. The specific problem is a survey of high-schools of 700 or less enrollment in the Pacific Northwest to determine "(1) the relative salaries of girls' advisers and principals, the rank of the adviser, her qualifications, and the amount of time that is spent in counselling and guiding; (2) the organization and activities that come under her supervision, the subjects she teaches, her disciplinary duties, her handling of special case work, and the special instruction she gives the girls; and (3) the value of an adviser to the school as judged by the principal."

Data and Technique of Investigation.—The data were obtained by questionnaire method. Check lists were sent to principals and girls' advisers of 456 small high schools in Washington, Oregon, Idaho, and Montana whose names appeared in the state educational directories for the years 1929 and 1930. The lists were prepared in two parts: one part addressed to principals and the other to teachers serving as girls' advisers. Usable data were returned by 200 principals and 161 advisers. The term "adviser," as used in this study, is defined as any woman or women performing advisory duties in the school; the term "principal" refers to the person replying to the questionnaire regardless of title (principal or superintendent).

85% of the schools surveyed were of the 4 year type; none were junior high-schools. 31.0% were in Group I; 28.0% in Group II; 25.5%, Group III; and 15.5%, Group IV. Four-fifths of the schools reported some form of organized advisory work.

Findings and Conclusions.—Less than $\frac{1}{2}$ of the advisers hold special titles; the majority rank as teachers only. When titles are used the order of frequency is: adviser, dean, director of physical education, coach, club adviser, counselor, girls' reserve adviser, supervisor of girls, director of girls, and assistant teacher.

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Median salaries were found to be: Group I, \$1383; Group II, \$1431; Group III, \$1457; Group IV, \$1650; Total group, \$1445. Salaries tend to increase with size of school. Salary comparisons with teachers and principals are presented in some detail. There is a difference of only \$37 between median salaries of advisers and teachers; principals' salaries, however, range consistently higher, the median salary for advisers being about 64% of the median for principals. The author's interpretation of her findings is that advisers, in general, are teachers who assume the work on an extra-curricular basis, and hence no additional salary is thought necessary.

71% of the advisers are unmarried; of those married the majority are in schools of 400 or over enrollment. The median age of the total group is 27 years with 40% between the ages of 25 and 30; analysis by groups, however, reveals a median age of 26 years in Groups I, II and III, and 34 years in Group IV.

With regard to training, advisers with normal training, 1.4%; A. B. degree, 94%; life certificates, 5%; graduate work without degree, 28%; A. M. degree, 2.8%; Ph. D. degree, 0.7%; about one half have special training for their positions as advisers. The larger schools show the higher percentages without degrees; these are the older women. In comparing these findings with the California study the author notes that the California group excel in degrees and amount of graduate work but the Northwest group show more special training.

The median for experience is 5.4 years; approximately $\frac{1}{4}$ of the group have had two years or less.

No adviser devotes all her time to advisory work. The average is 31 periods (45 minutes) per week. 39% teach one subject only; 37% two subjects and the remainder three or four subjects. Practically all subjects are represented although English predominates with 34%; music stands lowest in frequency (3.8%). The author calls attention to the fact that no attempt is made to select teachers of subject matter, such as home economics, physical education, social studies, or biology, which affords greatest opportunity for contacts with students.

With regard to office space and records, 77.3% report that they have classroom space only; 15.3% report office space; 7.3% no room. 24% keep records of their own; 58.6% have access to principal's records; whereas 17.3% have no records with

which to work. The larger schools are better equipped in this respect.

Duties in order of frequency, as reported by advisers, are: (1) disciplinary, (2) supervisory, (3) advisory, (4) social, (5) special cases and (6) clerical. 71.9% are responsible for disciplinary duties and only 41.0% for true advisory or guidance functions. Special instruction is given in manners, dress, health and hygiene, social relations, personal charm, education, amusements, ethics, conduct, study habits, and sex.

Principal's opinions as to the value of advisers' work were distributed as follows: essential, 50.9%; desirable, 44.0%; value limited, 16.2%; valueless, 5.6%; undesirable, 0. Principals' estimate of student reactions showed: enthusiastic, 14.1%; favorable, 68.2%; passive, 19.4%; unfavorable, 2.3%; antagonistic, 0. On the whole age, experience, and special training tended to increase the principal's evaluation of the position.

In commenting upon her findings the author stresses: (1) the advisability of early teaching contacts with students in subjects which offer greatest opportunity for contacts; (2) the need for better training; (3) more time for advisory duties and greater freedom from disciplinary duties; (4) time to organize work, more space and better equipment; (5) salary proportionately higher with increased training; (6) combining of vocational counseling with advisory work in the interests of economy.

Short, Vivian. *A Study of the Relation of Intelligence and Achievement in the Specific Skills of Algebra.* 1927.

Problem.—The purpose of this investigation is to study achievement in the specific skills of ninth-grade algebra in relation to intelligence.

Data and Technique of Investigation.—The Terman Group Test, Form B, was given to 315 pupils from four high-schools within the last month of their ninth-grade algebra work; and the Douglass Standard Algebra Tests, Series A and B, Form I, with the exception of Tests I and VI, were given within the last two weeks of their ninth-grade algebra.

Findings and Conclusions.—The r's between Terman intelligence quotients and Douglass Test scores were computed.

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School—	N	r	P. E. r	Mean I. Q.	S. D. of I. Q.'s	Mean Douglass Score	S. D. of Douglass Scores
A	119	.38	.053	104	9.80	34	9.25
B	86	.43	.059	109	10.30	36	6.45
C	45	.39	.085	104	10.80	34	7.90
All							
D	65	.67	.046	111	11.75	41	10.95
Schools	315	.50	.028	107	10.90	36	9.20

(1) Achievement in algebra, as measured by the Douglass Tests, depends, in part, upon intelligence, as measured by the Terman Group Test. (2) Prediction of the achievement in algebra on the basis of I. Q. calculated from scores on the Terman Group Test may not be made with any great degree of accuracy, though the chances for reasonable success are very slight for pupils of I. Q.'s of less than 85.

Wind, Kate. *A Comparative Personnel Study of Retained and Eliminated Pupils in Junior High-Schools of Minneapolis.* 1931.

Problem.—The purpose of the study is twofold: (1) to examine certain factors with regard to their relationship to the prediction of early withdrawal or retention of junior high-school pupils, and (2) to stimulate interest in the factors which cause elimination, with a view toward providing suitable educational and vocational guidance.

Data and Technique of Investigation.—Basic data consist of information regarding intellectual ability, age, scholarship, and social-economic status of three groups of students in the junior high-schools of Minneapolis; Group A—1355 students, 16 years of age or over, who withdrew from grades 7, 8, 9 and vocational school during period 1924-29, presumably to go to work; Group B—415 of above group who were available for interviews by school counselors, visiting teachers and attendance officers; Group C—1213 pupils from the 9a grades of 8 junior or junior-senior high-schools, selected as representative of school population with respect to nationality, occupational level of parents, educational background and wealth. Comparisons were made between Groups A and C and between Groups B and C.

Groups are compared largely in terms of percentages; a table showing "tabulated values of the standard error of percentages" is, therefore, included. Biserial r is computed when

data warrant. The chapter on Case Studies is apparently included to illustrate the importance of "exceptions to expectancy" from the counseling viewpoint.

Findings and Conclusions.—

1. Approximately 20% more boys than girls are eliminated before completing grade 9.
2. Marked differences in age-grade status are found; all eliminated pupils are retarded; of retained children, 54% are normal status, 33% accelerated, only 13% retarded.
3. Retained group averages .04 years acceleration at completion of grade 9; eliminated group averages 2.21 years retardation.
4. As measured by bi-serial r , a high relationship exists between overageness and junior high-school elimination ($.876 \pm .001$).
5. Both retained and withdrawing girls are younger per grade than retained and withdrawing boys respectively.
6. Elimination is not characteristic of any particular grade; about 20% withdraw before reaching grade 8, 20% from 8B, 20% from 9B, 20% from 9A and 20% from vocational school.
7. A determining factor in withdrawal is the 16th birthday—the compulsory age limit.
8. The median number of grades repeated by the eliminated group is $2\frac{1}{2}$, by the retained group, 0.
9. Less than 20% of withdrawals had skipped semester grades; over 30% of those retained had been doubly promoted from 1 to 4 times.
10. On the basis of ability grouping, children of superior, mediocre and inferior ability are found in both groups, the greatest differences showing in the extremes. Less than 1% of the withdrawing group ranked A in ability compared with 16% of retained boys and 11% of retained girls; $33\frac{1}{3}\%$ of eliminants are found in lowest group compared with 13% of other group.
11. Failure and low marks are characteristic of early withdrawal.
12. Median score for socio-economic status is 7 points (Sims Scale) higher for retained group (approximately one-fifth possible range).

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13. Educational status of parents is lower for withdrawing group; 73.72% of parents have less than high-school education compared with 41.31% of retained group; in latter group 8.99% are college graduates, in former, 1.21%.
14. Homes showed marked differences with respect to quantity of books; nearly 60% of eliminants reported less than 25 books in contrast with 30% of other group; median number of books in homes of eliminants 19.8 compared with 74.3.
15. Homes showed same trends with respect to magazines, the retained group having access, on the average, to twice as many as other group.
16. Occupations of parents showed rather striking contrasts, approximately $\frac{2}{3}$ of the retained groups coming from the professional and proprietary classes whereas approximately $\frac{2}{3}$ of the eliminants came from the labor classes. The major difference was in the professional group, the retained group having approximately 30 times as many representatives.
17. Elimination varied somewhat with city districts, the heaviest elimination occurring where economic status was lowest and industrial opportunities greatest.
18. Children born in the United States, and particularly within state, are more likely to complete junior high-school; no appreciable difference between sexes.
19. Case studies furnish typical picture of withdrawing child: boy, 16 years, 4 months, entering grade 9, $2\frac{1}{2}$ semester grades repeated, no grades skipped, inferior in mental ability rating, average scholarship "D", born in Minneapolis or Minnesota, living in industrial section of city, comparatively low socio-economic status, parents did not attend high-school, 19 books and 1 magazine in home, father a laborer.
20. A typical retained child would be: girl, 14 years, slightly underage for grade 9A, never failed or repeated grade, average or superior in mental ability, 1 double promotion, high C average, born in Minneapolis, living in good residential district, home comparatively high in socio-economic rating, library of 74 books and 2 magazine subscriptions in home, father in profession-

al or proprietary group, expects to graduate from senior high-school.

For purposes of prediction, marked over-ageness is the outstanding characteristic of early withdrawal; socio-economic status ranks second; since all the factors examined seem to act conjointly, all should be considered in predicting school stay of individual child.

Constructive proposals—

- a. The need for early recognition and remedial work in cases of retardation is obvious.
- b. Over-ageness should be attacked where it begins in the lower grades.
- c. The logic of repeating grades appears to be faulty.
- d. Cumulative detailed personnel records are important.
- e. The school should devise a program, curriculum and social, so that the children who tend to withdraw early may do so with a feeling of academic and social success.

PART V

Pupil Organization or Extra-Curriculum Activities

Knight, Pearle. *Club Activities in Secondary-Schools.* 1930.

Problem.—The general purpose of this study was to describe in some detail the practices, procedures, and policies in the organization, administration and supervision of club activities in high-schools.

Data and Technique of Investigation.—The data applying to the school year 1928-1929 were collected by means of a questionnaire sponsored by the Minnesota High-School Principals Association from 20 states and the District of Columbia were represented in the study. The states included were Oklahoma, New York, Minnesota, Ohio, Nebraska, Iowa, California, North Dakota, Colorado, Illinois, Michigan, Pennsylvania, Wisconsin, Kansas, Wyoming, South Dakota, Texas, Indiana, Massachusetts, Maine, and the District of Columbia. Enrollment of the schools varied from 62—3,334 students.

NUMBER OF SCHOOLS REPRESENTED BY CLASSIFICATION

ENROLLMENT—	Classification			Total
	TYPE A Junior High-Schools	TYPE B Six Year School	TYPE C Senior High-Schools	
Group I 62-299	24	21	45	
Group II 300-999	11	14	22	47
Group III 1000 over.....	7	8	29	44
	—	—	—	—
	18	46	72	136

Findings and Conclusions.—

Types of organizations—

1. The total number of different varieties of club activities reported was 144, with a median of 20 for all schools, and a range of 6 to 67.
2. The average number of type activities were: All-school 4.6, Music 3.4, Civic-Social-Moral 3.1, English 2.7, Physical Education 1.7, Miscellaneous 1.2, Science 1.1, Language .9, Domestic Arts .7, Art .6, Commercial .4, Agriculture .2, Mathematics .2.

3. In junior high-schools the average number of social-civic-moral clubs was 5.8 and exceeded all other types of clubs.
4. Number of clubs is directly proportional to enrollments.
5. The student council is generally found in medium and large schools.
6. The honor society is found in about three-fourths of the medium and large schools.
7. New types of clubs such as Rifle, Radio, Aero, Harmonica, and Chess are being organized to interest boys.

General administrative policies—

1. It is the general policy of the schools to give definite encouragement to club organizations.
2. The three most common procedures used in initiating and promoting clubs, in order of their frequency, are: publicity through the school paper, assembly talks, and special assembly programs.
3. Granting special awards is the most favored means of definite encouragement of student participation in activities.
4. There appears to be very little uniformity in the matter of school credit for extra-curriculum activities.
5. About 11 per cent of all the schools require participation.
6. In the formation of a club it is a rather general practice to obtain the approval first of faculty members and then of the principal.
7. In about three-fourths of the six-year high-schools the students in all the grades take part in club activities together.
8. Almost universally, the responsibility of the club program rests upon the principal. Only one director of activities was reported.

Membership—

1. Approval of sponsor as a method of admission to membership is reported by 47 per cent of the principals.
2. Though almost universally condemned by educators, approval by members is a basis in 31 per cent of the schools.

3. Very few schools, 14 per cent, employ school marks as a requirement for holding office.
4. About 16.1 per cent of the schools require minimum participation, and about one-fourth of the schools set a definite maximum.
5. The point system is the most popular means of regulating maximum participation.
6. More than one-half of all schools keep some record of participation.
7. Administrations consider that the most important use of records is to discover a student's capacity for leadership.

The sponsorship of clubs—

1. There is a pronounced tendency (95 per cent) to require that all organizations have sponsors.
2. The most preferred means of encouraging teachers to sponsor clubs is recognition in the principal's rating. Reduction in the teaching load is considered next in importance. About one-sixth of the administrators report that an extra salary is paid.
3. Administrators believe college participation is of greatest importance when considering training and experience for sponsorship.
4. The most accepted procedure in selecting advisers is appointment by the principal.
5. In about one-sixth of the schools the students choose their own advisers, but in no junior high-school does that practice appear.

Meetings—

1. Meetings are held on regular schedules in 34.6% of the schools.
2. Provision for meetings on school time is made possible by seven-eights of the junior high-schools and about one-half of the other schools. The most popular hour for the activities period is between ten and eleven o'clock and after three-thirty.
3. Practically all clubs meet in classrooms. Only about one-fourth of the schools have an "organization" or "social room."
4. In the large schools there is a tendency (68.2 per cent) to require constitutions for all organizations. The total requirements for all schools is 40 per cent.

5. About one-half of the schools limit the number of social meetings. The preferred policy is to have two social meetings a year.

Smith, George B. *The Relation Between Participation in Student Activities in High-School and in the University.* 1930.

Problem.—This investigation attempts to shed light upon several pertinent and pressing problems in the extra-curriculum activity field. The investigator states the problem to be six-fold: (1) To ascertain the relationships of the number of activities participated in in high-school and those participated in in the University. (2) Average number of activities engaged in by various sex and curriculum groups. (3) Relation of character traits to activity participation. (4) The number of activities in relation to curricula carried at University and in high-school. (5) The "pattern" of extra-curricular participation. (6) Relationship of intelligence to activity participation.

Data and Technique of Investigation.—This investigation is based upon data gathered for 762 students in six Minneapolis high-schools for the years 1922-1925, and their further performance in the University of Minnesota between 1925 and 1929. Activity participation records were obtained from the Annuals of the several high-schools and from *The Gopher*, the yearbook of the University of Minnesota. Intelligence ratings were obtained from the tests given all entering students, and are expressed in percentile ranks.

Findings and Conclusions.—

1. There appears to be a positive but almost negligible relationship between the number of activities participated in in high-school and the number participated in at the University. This relationship is expressed by a Pearson coefficient of $+.197 \pm .023$.
2. The average number of activities engaged in by women in high-school was 4.82 and by men, 4.49.
3. In the University, the women participate more widely than men as indicated by their respective means of 4.61 and 3.39.
4. From ratings by high-school student advisers on character and personality traits it is found that low ratings on such traits accompany meager participation in activities.

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5. Very few pupils, except in athletic and social organizations, participate in activities in the University in which they have had previous experience in high-school.

6. Students enrolled in academic curricula participate to a slightly greater extent in activities than do students enrolled in technical and professional curricula.

7. Athletes are not "one activity" participants but participate widely in other types of activities.

8. Men in the university show the highest per cent of single activity participation in the semi-curriculum groups. Women tend to scatter their choices more widely.

9. In high-school, the men with higher mental ability participate in dramatics and publications, while athletic and music groups are composed of those of lower ability.

10. In the University men with higher ability are found in music, drama, and publications. The intelligence of religious organizations and the no-activity groups is somewhat lower.

11. Dramatics and publications attract the women with higher mentalities in high-school. Those more definitely interested in social life have on the average slightly lower mental ability.

12. In the University women in dramatics and publications are above average in mental ability and those in music and semi-curriculum orgaizations are below average.

13. The following positive but small relationships between intelligence and the number of activities engaged in were reported as follows:

1. High-school men.....	.07±.047
2. High-school women .....	.13±.038
3. University men .....	.08±.046
4. University women.....	.16±.038

PART VI

Junior College and Junior High School

Clark, Leonard A. *An Analysis of Certain Fundamental Characteristics of Public Junior Colleges in Iowa.* 1930.

Problem.—To furnish data relative to the status and trends of the public junior college movement in Iowa, with particular reference to growth, size and distribution, relationships to high-schools, teaching staff, curriculum offerings, effects upon the four-year colleges and conditions under which the work of the junior college is being carried on.

Data and Technique of Investigation.—The data were gathered largely from the reports of the public junior colleges in the state of Iowa to the state department of public instruction.

Findings and Conclusions.—

1. *Growth and enrollments*—There were in 1930, 28 public junior colleges in Iowa, all but 6 of which had been established since 1925. All but 7 of them were located in towns of less than 7500 population, half of them in towns of less than 5000 and three of them in towns of less than 2000. The median enrollment was 47.5 and the interquartile range 34.75 to 70.38. But 2 had an enrollment in excess of 105. Slightly more than 25% of the students came from outside the district. Among those living in the district the enrollment in junior colleges was 9.4% the enrollment in the high-schools. Attendance was affected only slightly by the presence of nearby colleges.

2. *Instructional staff*—But one of the 181 instructors had no degree, 17.6% had only a baccalaureate degree, 81.9% had a master's degree, and none had a doctor's degree. The comparable figures for six 4-year liberal arts colleges in Iowa were 9.2%, 34.5%, 36.7% and 19.6%. The median total teaching experience was 7.2 years and the interquartile range from 3.7 to 13.2 years. More than half of the experience had been in high-schools. Practically all teach at least one class below the junior college level and on the average half of the load of junior college instructors is in high-school classes. The median teaching load is 14.5 periods per week, with an inter-

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quartile range of 12.1 to 17.4 periods. Approximately two-thirds of the instructors teach in but one field, 31.32% teach in two fields and but 3.3% teach in three or four fields. About 88% of their classes are in the fields of their college majors or minors. The median annual salary was \$1748, with an interquartile range of \$1546 to \$2049, about \$300 a year greater than that paid in comparable high-schools. Instructors with master's degrees were in general paid from \$100 to \$300 more.

3. *Curricula offering*—The offerings ran largely to English, foreign language, mathematics, science, and history. Government was taught in 19 schools, psychology in 16, speech in 14, and economics in 10. No other subject was taught in more than three schools though fourteen other subjects were taught in from one to three institutions. The median number of semester hours of curriculum offerings was 84 hours with an interquartile range of 58 to 97 hours.

4. *Location*—Not only are many of the junior colleges located in close proximity to four-year institutions, but many are located so as to overlap in the territory from which they may be expected to draw their students. They are concentrated along the eastern and southern borders of the state with a north and south chain through the middle of the state. In general there are the more thickly populated areas of the state, but not the areas greatest in wealth per capita.

5. *Certain conditions under which work is done*—The pupils per teacher ratio ranges from 5 to 1 to 23 to 1 with the median at 12 to 1, the smaller ratios being largely in the smaller schools. A wide variation in size of library exists, the number of books ranging from 90 in one school to 9,732 in another, the median school having about 1300 books and the interquartile range being 300 to 3870 volumes. All but two of the schools have chemistry laboratories, 12 have biology, seven physics, five agriculture and four home economics laboratories. The student load is 15 or 16 hours per week with more carrying less than 15, than more than 16 hours. A number of the laboratories are poorly equipped.

The establishment of junior colleges has seriously affected the enrollments in a number of the small four-year colleges.

The thesis also contains discussions of factors to be considered in determining whether a junior college should be lo-

cated in a given community and suggestions for study of the question.

Conclusions of the author are not indicated above:

1. The rapid growth of junior colleges and of enrollments indicates that the people of Iowa are taking the junior college seriously.
2. The education, experience, and teaching load of instructors in Iowa public junior colleges compare fairly favorably with those in junior colleges of the United States as a whole and with the standards set by accrediting agencies. Salaries were however definitely lower.
3. The chief function of the Iowa junior college as shown by the curriculum is isthmian (university preparatory) rather than terminal or vocational.

Stowell, L. L. *A Study of Space Provisions in the Floor Plans of Junior High-School Buildings.* 1930.

Problem.—The purpose of this study was to investigate the different types of space provision found in the plans of junior high-school buildings, together with the uses which were made of the various facilities provided.

Data and Technique of Investigation.—

- A. Nine questionnaires sent to six groups respectively as follows:
 1. State Departments of Public Instruction.
 2. State Chapters of Architects.
 3. City School Superintendents.
 4. Architects and Superintendents.
 5. Architects, three forms.
 6. Principals, two forms.
- B. Floor plans of school buildings visited and floor plans published in periodicals.
- C. A study of the questionnaires and blue-prints used involved a four-fold problem.
 1. A study of the space provisions—areas and frequencies.
 2. A consideration of the administrative practices affecting the provision of space in junior high-schools.
 3. Criticisms of present buildings.
 4. Current practices in the determination of space provisions.

The schools were divided into the following classifications:

Class A. included junior high-schools housing grades seven to nine exclusively, for which floor plans were obtained and questionnaires returned.

Class B. included those schools having a variable number of junior high-school features, which set plans, and returned questionnaires.

Class C. included all schools which entered into this study, having various numbers of junior high-school features.

Findings and Conclusions.—

1. Over 50 per cent of the schools studied, which were constructed during a 30-year period, were of three-story type.

a. Tendency toward two story buildings since 1922.

2. On the basis of average cost per cubic foot, the schools ranked one-two-three from the cheapest to the most expensive, identically with the number of stories in height.

3. School buildings shaped like the letter I predominated in the Central States.

4. In terms of average cost per cubic foot of content, I shaped buildings were the cheapest, and U shaped buildings were the most expensive.

5. Most of the schools in the middle Atlantic and Central states were built with south and west orientation.

6. A much greater provision in quantity and variety of space of all kinds was made in the school buildings of the larger cities.

7. The total occurrence of the twenty-one major classes of space provisions was more frequent in basements than on either the ground or third floors.

8. Of the 98 schools reporting, 56 per cent had multiple use of one or more rooms; auditoriums and gymnasiums reported most frequently.

9. The average time to reach maximum pupil capacity and the time between building operations was 3.8 years for all schools which had building programs and school enrollment surveys.

10. Over 50 per cent of all schools which reported on the subject indicated a separate housing for the junior high-school.

11. Out of 49 schools, 31 had less than 21 per cent of their total basement area excavated.

12. City school principals criticised the size and location of rooms:

- a. Rooms too small in 43 per cent of the schools.
- b. Rooms poorly located in 30 per cent of the schools.
- c. Space provisions poorly located in 32 per cent of the schools.

Van Gorden, Cole R. Jr. *The Public Junior College in Iowa*. 1932.

Problem.—To discover what kind of institution is developing in Iowa; to discover the place of the public junior college in Iowa's state educational system; and to bring into relief what possible contribution the junior college may make in a local system of democratic education.

Data and Technique of Investigation.—Data were gathered concerning the 28 public junior colleges in Iowa

- a. By a personal visit to each institution including inspection and conference with local administrators, instructors, pupils, and patrons.
- b. From the Junior College Conferences held in Des Moines in 1929 and 1930 in connection with the Iowa State Teachers Associations.
- c. From annual reports made by the heads of the junior colleges to the State Department of Public Instruction.
- d. Records of the county auditors.
- e. Questionnaire replies from 13 Iowa junior colleges.
- f. Bulletins or catalogues of the junior college, four-year colleges, of 14 institutions to whom the questionnaires were sent.

Findings and Conclusions.—

1. *Location.* Iowa's junior colleges are located in all sections of the state except the middle western section. The supporting population of the colleges ranges from 9,000 to 40,000, median, 21,000.

2. *Supporting wealth.* Assessed valuations range from \$864,000 to \$23,292,000; median \$3,300,000, interquartile range, \$2,500,000 to \$5,500,000.

3. *Teaching staff.* Master's degrees, 73.2%; Bachelor's degrees 26.8%; more training than public junior colleges in the U. S. or the private junior colleges in Iowa, but less training than 4-year colleges in Iowa or in the United States. Total teaching experience: 11.4 years (average), 9.7 years in high-

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school and junior college. Salaries: men—median \$2,038; interquartile range \$1,825 to \$2,250; women—median \$1,758, interquartile range \$1,566 to \$1,937. Iowa junior college teachers are less well paid than for the country as a whole and four year colleges in Iowa.

4. *Laboratory and library facilities.* Value of laboratory equipment in science subjects, agriculture and home economics—median \$3,500; interquartile range \$2,200 to \$6,600. Number of volumes in library—median 1,787; interquartile range, 405 to 4,319. All schools have card catalogues and a trained librarian in charge.

5. *Enrollments and retention.* Enrollment ranged (1930-31) from 24 to 162; median, 51; interquartile range, 35 to 72. With respect to proportion of enrollments made up of graduates of local high-school, the median was 73.4%. The number of junior college students per 1000 of local population was—median, 6.4; interquartile range, 3.5 to 9.3. The low percentages were all in larger cities. The percentages of enrollments in sophomore class to freshman class of year previous ranged from 24% to 111%; median 55.6%; interquartile range, 44% to 73%; entire state 56%, as compared to comparable figures for 13 four-year colleges in the state—median 59%; interquartile range entire state 75%.

6. *Curriculum offerings.* All schools offer courses in English, foreign language, mathematics, science, and history; 20 offer courses in psychology and 20 in government and 7 in economics. Courses are offered in 16 other fields in from 1 to 4 schools. The number of semester hours in all subjects offered varies from 19 to 158; median, 80; interquartile range, 70 to 98. Few vocational or other terminal courses are offered. One school offers a pre-engineering curriculum, one a commerce curriculum, one an agriculture curriculum and six teacher training curricula. In general the courses are quite similar to lower division courses at the University of Iowa and other liberal arts colleges.

7. *Tuition.* The standard tuition charge is \$50 a semester, four schools charging slightly less, and four charging slightly more.

8. *Reasons for establishment.* The chief motive for establishing the junior college as given by 25 institutions for which catalogues were available was economy to the student—

mentioned by all. In 22 bulletins, continuance of home influence was mentioned; in 18, small classes and personal relations with teachers; in 16, to avoid difficulties of orientation and adjustment in large institutions. Others given frequently are—the cultural influence upon the community, the transitional function of the junior college, greater opportunity for training in leadership. Mentioned only by seven, but no doubt influential in others, as may be suggested by the favorable attitude of commercial and service clubs, was "keeping money" at home.

Summary—

1. The junior college has become a permanent part of Iowa's public system of education.
2. The establishment of junior colleges in Iowa seems to run by counties.
3. Instructors as judged by prevailing standards in terms of degrees are adequately trained, not exceedingly heavily loaded, and poorly paid.
4. While the majority of the schools have from good to excellent library and laboratory equipment, a considerable minority are inadequately equipped.
5. The junior colleges draw well from the local high-schools but many of the schools do not hold their students as well as do four-year colleges.
6. The curriculum is largely "isthmian" or of the conventional liberal arts type.
7. The schools are supported in large part by tuition charges.

PART VII

Management and Discipline

Fosness, Absalom. *The Supervision of High-School Pupils During Non-School Hours.* 1929.

Problem.—To ascertain the means used by high-schools in supervising the non-school hours of pupils. Especial reference is paid to the class of students who must be "away from home" in order to attend school.

Data and Technique of Investigation.—

1. Questionnaires were sent to 225 principals of high-schools located in villages in Minnesota, South Dakota and North Dakota, with populations from 1,000 to 2,500. Returns were received from 94 schools.

2. Questionnaires were sent to rural parents whose children were not in high-school to determine the reasons for non-attendance—of these too few were returned to make a significant analysis.

3. Questionnaires were filled out by students in high-schools relative to residence or non-residence, distance traveled to school, methods of travel, rooming conditions, extra-curricular activities and outside gainful employment.

Findings and Conclusions.—

A. From information supplied by principals—

1. It was found that about 40% of the pupils in the schools replying were non-resident and 60% resident.
2. Non-resident pupils remained in high-school in greater proportion than resident pupils.
3. In 56% of the larger schools (7-24 teachers) there was some supervision of non-school hours, of pupils, while only 26% of the smaller schools (3-6 teachers) reported such supervision.
4. Methods of supervision were: Conference with parents; written report to the parents; conference with pupils; visits to the home of pupils by principal or superintendent.
5. In only 20% of the larger and 17% of the smaller schools are parents regularly informed concerning the conduct of their children.

B. From information supplied by high-school pupils—

1. Non-resident pupils who traveled back and forth from home to school lived an average of four miles from school. The non-resident pupils who roomed in town lived an average of 9.7 miles from school.
2. The rooming place was in 90% of the cases chosen by the parents.
3. 37% of the non-resident pupils reported that they engaged in no vocational occupation. 57% of the resident boys and 41% of the resident girls engaged in no gainful occupation.

No occupation was reported for 39% of the boys and 41% of the girls who roomed in town. Only 25% of the non-resident boys residing at home were not employed. Non-resident girls living at home are not engaged in gainful occupation to any greater extent than the other classes of girls.

4. Farm work was the principal occupation of the boys.
5. Housework was the principal type of work done by the girls.
6. Work in stores, etc. was the type of occupation in which resident boys engaged.
7. Amount of study outside of school during school week:
 - a. 28% of resident boys as compared to 23% of non-resident boys did no studying outside of school hours.
 - b. 20% of resident girls rooming in town as compared to 18% of the non-resident girls did no studying outside of school.
 - c. Only 75% of the pupils devoted less than 6 hours a week to study outside of school hours. Girls devote more time to study than boys. (Three-fourths of those devoting more than 6 hours were girls.)
8. Little or no time is devoted to study over the week-end; about one-third state they do no studying and 80% devote less than 2 hours.
9. Number of hours study per week outside of school hours:

Non-resident girls rooming in town.....	7.5 hours
Non-resident girls rooming at home.....	6.1 hours
Resident girls	6.0 hours
Non-resident boys rooming in town.....	4.5 hours

- Non-resident boys rooming at home..... 3.6 hours
 Resident boys..... 3.3 hours
10. Outside activities: 64% of the pupils reported attendance at church; the resident pupils participated in a greater number of activities than the non-resident pupils, and devoted a little more time to such activities.
11. Resident pupils participated in more extra-curriculum activities and devoted more time to their activities than did non-resident pupils.

	No Activities	2 or More Activities
Non-resident girls rooming in town....	49.1	18.7%
Non-resident girls rooming at home....	38.5	19%
Resident girls	22.5	35%
Non-resident boys rooming in town....	38.7	23%
Non-resident boys rooming at home....	38.5	21%
Resident boys.....	19.2	48.1%

Krantz, LaVern L. *Typical Disciplinary Problems and Practices in the High-School.* 1931.

Problem.—

1. To discover distinctive characteristics of the major disciplinary problem pupils in high-schools.
2. To discover the immediate location of disciplinary offenses.
3. To survey the practices that obtain in high-schools with reference to maintaining order and handling problem pupils.

Data and Technique of Investigation.—A questionnaire was sent to 500 high-school principals in Minnesota, Missouri, Iowa, North Dakota, South Dakota, and Nebraska. Of these 154 were returned and were made the basis of the study. Over half of the replies came from Minnesota and Missouri. Of these, 42 came from schools with enrollments of less than 125 pupils, 49 from schools of from 200 to 325 pupils and 63 from schools of over 400 pupils. Of the schools replying 62% were 4 year high-schools, 10% junior high-schools, 17% six year high schools and 17% three year senior high-schools.

In addition to the information as to practices in meeting problems of discipline, the principals were asked to furnish certain specified information concerning from one to four of

their most aggravating disciplinary problem pupils. Such data were received concerning 282 pupils.

Findings and Conclusions.—

1. Pupils participate in the disciplinary control of 36% of all the schools, over 50% of the larger schools, and in less than 25% of the smaller schools.
2. The students assisting most frequently in disciplinary control of the library and the corridors.
3. Students report offenders in about one-fourth of the schools.
4. Students assist in determining punishment in about one school in seven.
5. Nine out of ten principals believe that there are occasions when pupils should be sent from the classroom to the principal's office, though in general for only two causes, "In-subordination" and "Causing general disturbance."
6. When pupils are sent from the classroom in 539 of the schools they are re-admitted only by written permit and in 40% of the schools they arrange their re-admission in an interview with the teacher. In 28% of the schools the principal does not always know of such cases.
7. Principals rather uniformly believe that pupils do not lose respect for a teacher who occasionally sends a pupil to the office and that the pupils lose respect for the teacher who does so frequently.
8. In 82 of the schools, the principal has the power to suspend pupils from school.
9. About half of the schools have no teachers' meetings with discipline as the main topic. The median number of meetings on this topic is less than one a year, although nine schools have as many as ten a year.
10. Among teachers having the greatest trouble with discipline is a disproportionate number teaching their first year in their present position.
11. Excellent teachers rarely have trouble with discipline.
12. Principals are equally divided in their belief as to whether the most popular teachers have the least difficulty in discipline.
13. Boys constitute 90% of the disciplinary cases and students in grades 9 and 10 constitute more than their share.

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14. Most frequent major offenses are, next to truancy: stealing, insubordination, and continued disturbance. No one type of offense except truancy includes more than 11% of the cases. Fighting seems almost to have disappeared. Insubordination is most prominent in grades 8 and 9, stealing in grades 10 and 11.

15. The problem pupil is characterized as follows: four times out of five, a boy; indifferent towards his school work; quite frequently an athlete, most frequently of I. Q. lower than average of school; more often than not failing in one or more subjects; rarely an accelerated pupil; usually doing poor work in class in which he causes trouble; comes in disproportional numbers from family of moderate or poor means, is neither a leader or social outcast.

16. In 37.8% of the cases cooperation of parents is excellent, in 24.6% of the cases they are indifferent; in 10.6% of the cases they are antagonistic.

17. The principals report a much greater per cent of cases as improved among those where parental cooperation is obtained.

18. Nine out of ten principals do not advocate punishment before a class.

19. Corporal punishment is used rarely above the ninth grade.

20. The most frequent methods of attempting to handle entering types of offenders are as follows: truancy—suspension and detention; stealing—heart-to-heart talk and suspension; insubordination—suspension (markedly).

PART VIII

Costs

Berning, Theodore J. *A Study of Elementary and High-School Costs in Districts Maintaining Class A High-Schools and High-School Departments.* 1930.

Problem.—To furnish information on school costs and state and local support in two classes of schools throughout Minnesota, 65 Class A four-year high-schools and 163 high-school departments, for the school year 1928-29.

Data and Technique of Investigation.—Data obtained from local superintendent's annual report, teachers' qualification blanks, County auditor's report, County superintendent's annual report, tuition aid blanks submitted by local superintendents, and special reports on state aid to the State Department of Education, Minnesota.

The accounting classification used in Minnesota does not show separately the current costs for maintaining the several organization units within the system, as for example: to discover elementary school costs as compared with high-school costs.

The formula used for separating the expenditures for the high-school and the elementary grades in the study of these Minnesota schools is a modification of the one developed by Hunt¹ and Stoops.² Ratios of this type cannot be true standards but more or less relative, since conditions are constantly changing. The salary ratio employed in this study represents from fifty-nine to sixty-five per cent of the total annual current expenditures. It gives an indication of general tendencies for comparison among these small schools. The validity of the modified formula can be assumed to a reasonable extent when comparing costs within a state as a whole.

Formula for Separating Elementary and High-School Expenditures.

Multiply

- A. The total current expenditures, including these items, general control, total teachers' wages, (If a high-school train-

¹C. W. Hunt. *The Cost of Secondary Education in the State of New York.* The Macmillan Co., 1924, p. 9.

²R. O. Stoops. *Elementary Costs in the State of New York.* The Macmillan Co., 1924, p. 8.

ing teacher is employed, her salary should be deducted.) textbooks and supplies, library, operation, maintenance, and other expenses.

by

- B. Total high-school teachers' salaries. (This item includes only such portion of the superintendent's time as is actually devoted to high-school teaching. Assembly and library duty are considered actual teaching time and charged to the high-school.)

Divided by

- C. Total teachers' salaries minus that portion of the superintendent's time not actually spent in high-school teaching. (If a training teacher is employed, her salary should be deducted.)

Equals

- D. The total high-school current expenditures.

$$\frac{\text{A times B}}{\text{C}} = \text{D}$$

- E. The total elementary-school current expenditures are found by subtracting the total high-school current expenditures from "A," the total expenditures.

$$\text{A minus D} = \text{E}$$

Findings and Conclusions.—

1. The average elementary per pupil current expenditure in schools connected with the high-school departments was \$74, (extremes, \$39-\$142), and in schools connected with the Class A four-year high-schools, \$72 (extremes, \$51-\$120). The average per pupil funds received from the state was \$20 for the high-school departments (extremes, \$9-\$89), and \$17 for the Class A four-year high-schools (extremes, \$9-\$35). The average per pupil cost to the district for current expenditures was \$54 for the high-school departments (extremes, \$18-\$126), and \$55 for the Class A four-year high-schools (extremes, \$20-\$98).

2. The average high-school per pupil current expenditure in the high school departments was \$154 (extremes, \$82-\$526), and in the Class A four-year high-schools, it was \$149 (extremes, \$83-\$391). The average per pupil funds received from the state was \$53 in the high-school departments (extremes, \$23-\$101), and \$56 in the Class A four-year high-schools (extremes, \$19-\$83). The average per pupil current expenditures to the district was \$101 for the high-school de-

partments (extremes, \$1-\$488), and \$93 for the Class A four-year high schools (extremes, \$21-\$232).

3. The average total per pupil current expenditures for both elementary and high-school pupils was \$109 for the high-school departments (extremes, \$61-\$250), and \$106 for the Class A four-year high-schools (extremes, \$73-\$172). The average per pupil funds received from the state was \$39 for the high-school departments (extremes, \$18-\$91), and \$38 for the Class A four-year high-schools (extremes, \$21-\$62). The average per pupil current expenditures to the districts was \$69 for the high-school departments (extremes, \$6-\$197), and \$68 for the Class A four-year high-schools (extremes, \$26-\$131).

4. A low pupil-teacher ratio was responsible for a large part of the high current expenditures.

5. The high-school cost per pupil decreased as the enrollment increased.

6. The state of Minnesota paid seventy-five per cent of the transportation costs in Class A four-year high-schools and seventy-four per cent in high-school departments.

7. The cost of transportation per transported pupil was slightly lowered as the number of pupils transported increased.

8. The amount of standardizing aid paid by the state, per pupil, increased as the enrollment decreased. In the schools maintaining one or more special classes in general industrial arts, home training, commercial training, or agriculture, the amount of state aid, per pupil, increased as the enrollment decreased.

9. The current expenditures per pupil increased slightly with the assessed valuation. The funds received from the state per pupil decreased as the assessed valuation increased.

10. Minnesota paid high-school tuition for 39.4 per cent of the high-school pupils enrolled in districts maintaining Class A high-schools, and 38.6 per cent in high-school departments.

11. In 1929 there were 7,340 rural schools that qualified for state aid. The high-school tuition deducted from 433 school districts in which the special tax levy was less than four mills and from which 1,356 pupils attended high-school, amounted to \$44,481.50. This amount was three and six-tenths per cent of the \$1,222,381, the total amount of high-school tuition that the state paid for nonresident pupils in 1929.

12. Supplemental aid was paid to forty-five per cent of the Class A schools and to fifty per cent of the high-school departments in Minnesota.

13. Minnesota paid twenty-four per cent of the elementary current expenditures based on averages, excluding transportation, and thirty-eight per cent of the high-school current expenditures in districts maintaining Class A high-schools. The high-school departments received twenty-seven per cent of their elementary current expenditures, excluding transportation, and thirty-five per cent of their high-school current expenditures from the state. Both groups of schools received thirty-six per cent, based on averages, of their total current expenditures including transportation from the state.

14. There was a wide range of individual school expenditures and funds received from the state at median enrollment intervals.

Miller, Earl G. *An Analysis of Current Expenses in Township High-Schools of Illinois*. 1931.

Problem.—The purpose of this study was to analyze the current expenditures in township high-schools of the state of Illinois in order to determine the expense for different items of the school budget and to provide a basis for making comparisons of expenses between any two or more schools.

Data and Technique of Investigation.—The data were secured from the Biennial Reports of the Superintendent of Public Instruction of the State of Illinois for the school years 1919-20, 1923-24, 1927-28 and 1929-30. Expenditures of 167 representative township high-schools were examined.

The high-schools of Illinois are required to report their current expenses according to the following classification:

- General Control
- Instruction
- Operating School Plant
- Maintenance of Plant
- Auxiliary Agencies

The cost per pupil for each of these five major budget items and for total current expense was found by dividing the gross expense for each item by the average daily attendance. This was done for each of the high-schools included in this study. The per cent which each item is of the total current expense, and the per cent of increase in the amount spent for the

various major items for each of the high-schools for the school years 1919-20, 1923-24, and 1927-28 were computed.

The schools were then classified on the basis of their average daily attendance into six groups ranging from the smallest schools of less than 50 pupils to those of more than 1000. Medians and quartiles for all the computed data were then determined for each of the various groups.

The geographical distribution of per-pupil costs in these schools within the state of Illinois is also presented.

Findings and Conclusions.—

MEDIAN COST PER PUPIL FOR THE MAJOR BUDGET ITEMS AND THE PERCENTAGE OF TOTAL CURRENT EXPENSE USED FOR EACH ITEM

	1919-20		1923-24		1927-28		1929-30
	Median	% of Total	Median	% of Total	Median	% of Total	
Total Current Expense	139.00		160.00		178.00		183.00
General Control	2.18	1.6	2.17	1.3	2.62	1.5	2.85
Instruction	100.00	74.4	124.00	76.7	133.22	74.3	128.00
Operation of Plant	17.00	12.7	19.44	11.6	22.74	13.3	23.00
Maintenance of Plant	5.33	4.1	7.54	4.0	11.20	6.0	11.00
Auxiliary Agencies	3.74	2.5	3.38	2.2	2.93	1.6	3.00

MEDIAN PERCENTAGES OF INCREASE IN CERTAIN FACTORS FOR THE INTERVAL BETWEEN 1919-20 AND 1927-28

Cost for Instruction	Costs Other Than Instruction	Total Current Expense	Average Daily Attendance
101	127.5	104	64

1. The variations in the cost per pupil for total current expense are so great among schools of approximately the same size and location as to indicate urgent need for an analysis of the causes in order that proper administrative measures may be taken to equalize educational opportunity and prevent waste.

2. The decreased differences between quartiles and between extremes since the school year 1919-20 seem to indicate a tendency for the per pupil costs for total current expense to become more standardized.

3. Evidence based on the median per pupil costs for total current expense seems to indicate that schools having an average daily attendance of 301 to 500 pupils are the class having the smallest expenditures. Next in order are the schools of 501-1000 pupils followed by the schools of 201-300 pupils. Schools with an average daily attendance of less than 50 do not seem to provide opportunity for economical administration.

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4. With the exception of the group of schools having an average daily attendance of less than 50, the cost per pupil for general control increases as the size of the school increases. This is true also of the percentage of total current expense devoted to general control.
5. Variations in the amount of money spent for each pupil for instruction are similar to variations noted in the cost per pupil for total current expense.
6. There is a tendency for the percentage of total current expense used for instruction to increase as the size of the school decreases.
7. Schools with an average daily attendance of from 301 to 500 spend less per pupil than any other class for operation of the plant.
8. The great variation in the percentage of the total current expense used for operation of plant in schools of about the same size indicates urgent need for an analysis of operation costs.
9. Data indicate that maintenance per pupil costs are higher in the smaller schools. Wide variation in the percentage of total current expense devoted to maintenance shows a need for a consistent and well planned policy of maintenance of the school plant.
10. There has been a decrease in the cost per pupil for auxiliary agencies since 1919-20 and variations within the various classes have decreased.
11. The increase in expenses other than for instruction has been relatively greater than the increase for instruction. The greatest increases have been in maintenance and operation costs.
12. Total current expenses increased much more in the interval 1919-20 to 1927-28 than did the average daily attendance.
13. Practically all schools having the highest cost per pupil for any major budget item are in the northern division of the state.
14. Schools having the lowest cost per pupil for any major budget item are practically all in the southern division of the state.

Satterfield, K. C. *Public Secondary-School Costs in Minnesota, 1925-1929.* 1932.

Problem.—To discover the status and trends of per-pupil cost in different size four-year secondary-schools in Minnesota and associated information relative to teachers salaries, tuition, of non-resident pupils, the difference among districts in wealth, per pupil, and relative proportion of costs expended for salaries, operation and total current expense.

Data and Technique of Investigation.—Data were obtained from two sources:

(1) the financial reports made to the State Department of Public Instruction for the years 1926-27 through 1929-30 for three groups of schools:

Group I—22 school districts in cities of 2500 to 5000 population, all in the state.

Group II—75 school districts in villages of less than 2500 population, selected at random.

Group III—64 districts maintaining partially accredited high-schools, called "departmental schools."

(2) Reports containing classified expenses made to the county superintendents of schools. Districts of population of over 5000 population were not included because most of them were undergoing a transition to the 6-3-3 plan, between 1925-1929, making it impractical to compare costs over this period. "Current expense" was employed to cover all expenses except capital outlay, payment on bonds or interest on bonds and was treated in two categories—salaries and "other than salaries." Total current expense for secondary education was computed by salary for and the following proportion: high-school salaries: total salaries as x: total current expense (Henitz formula).

For purposes of comparison, data from a similar but earlier thesis by R. A. Lease (1923-4) were employed.

Findings and Conclusions.—

1. Teachers' salaries remained almost stationary from 1925-26, decreasing slightly, particularly in small unaccredited schools.
2. Teachers' salaries vary widely for school to school even in its own population class, particularly among the smaller schools where the median salary in one school may be four times that of another school.

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3. Up to 5000 population there is not much difference between schools of different size in average salary.
4. Conclusion 1, 2 and 3 apply also to the total current expense of secondary education.
5. The ratio of salaries to total current expense is greater in the larger schools and less in the unaccredited schools.
6. Great variations between schools exist in the ratio of salaries to total current expense particularly in the smaller and unaccredited schools.
7. The per pupil costs were materially greater in the smaller and unaccredited schools, particularly in the latter.
8. There is more assessed wealth behind the pupils of the small unaccredited schools and little difference between the other groups of schools.
9. Within each group of school great variations exist between schools as to average amount of assessable wealth per pupil. The range is greater in the smaller districts and is tremendous in the unaccredited group where the ratio of the highest to the lowest is more than 44 to 1.
10. While non-resident pupils constitute about a third of the enrollment in each group of schools, the tuition received for such pupils is only about a sixth of the total cost of secondary education.
11. The amount of state-aid per pupil materially decreased from between 1925-6 and 1929-30.
12. The amount of state aid per pupil is materially less in the larger schools than in the two smaller groups.
13. Salaries of high-school teachers increased from 1916-20, and decreased slowly from that time down to 1929-30.
14. Assessable wealth decreased in the smaller districts between 1924-5 and 1928-9.
15. Tax levies decreased in Groups II and III particularly in the former (1.8 mills) and remained practically stationary in Group I.
16. The proportion of non-resident students decreased very slightly since 1923-4.

PART IX

General and Miscellaneous

Braithwaite, Katherine E. *An Experimental Study of Ninth Grade Foods Classes on the Long and Short Periods.* 1930.

The Problem.—This investigation attempted to discover what effect the shortening of the class period for home economics had on the skills, knowledge, habits, and appreciations of students in food preparation classes.

Data and Technique of Investigation.—Data were obtained from the following sources:

1. An intensive study of six ninth-grade foods classes in Minneapolis, Minnesota, during an eight-week period in 1930.
2. A series of controlled observations of foods classes on the long and on the short period in several schools in Minneapolis and St. Paul.
3. School records in the principal's office.
4. Records of the Research Bureau of the Board of Education which had made a study, through the use of the Simm's Score Card for Socio-Economic Status, of the homes in the districts from which each school drew its students.

Three classes with the short period (57 minutes) were compared with three other classes having an 86 minute period. The two groups were paired originally upon their intelligence, the socio-economic status of the homes in the district in which the schools were located, and the ability of the teachers, who were rated as about equally efficient by the supervisor. The classes met daily and were taught, so far as possible, identical subject matter.

At the beginning of the experiment the two groups were found to be surprisingly similar in most of the comparisons made: on the initial test (a new-type test of 100 points with a reliability of .92 and .97 for forms A and B, respectively) the mean scores were 44.22 ± 5.44 and 44.15 ± 5.54 ; the mean I. Q.'s were 93.07 ± 7.18 and 98.04 ± 7.84 ; the mean ages were $14.68 \pm .67$ and $15.01 \pm .67$ years; the mean numbers in the family were 4.90 ± 1.58 and 4.86 ± 1.16 . A practical test was also used, but it was found to have no value because of the subjective manner of scoring. One half of each class took form A

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of the test at the beginning of the experiment, and Form B at the close. The other half of each class took the two forms in reverse order.

The following additional measures were used in comparing the two groups: a record of the nature, time, and order of the recitation; a detailed evaluation of the class work in terms of Brueckner's points for lesson analysis and his levels of teaching, and the length of time devoted to different activities; a list of home activities relating to food planning, preparation, and serving which students checked to indicate what they had done before and what they did after they had studied this unit; and a paragraph written by each student giving her opinion of what she had learned from the unit.

Findings and Conclusions.—

1. The amount of previous training in home economics showed an insignificant relationship to what students knew at the beginning of the experiment and a negative relation with what they knew at the end.

2. When the total groups were compared, intelligence did not seem to show any significant relationship to what the students knew at the beginning nor at the end of the term, a comparison of the gains of the highest fourths of the two groups showed a difference.

3. The average gain on the final test over the initial test proved to be 19 points for the long period group and 23 points for the short period group. The smallest mean gain (17) was made by a long-period class and the largest (32.5) by a short-period class, which suggests that perhaps the teachers were not as equal in ability as had been assumed.

4. The detailed observations of a large number of classes indicated that time was much more efficiently used in the short than in the long periods, by both teacher and students. In the former the students seemed to be more conscious of time and needed less urging to do their work with dispatch.

5. At the end of the unit the students in the short-period class were doing at home much more work related to school instruction than were those in the long-period group, but there seemed to be no relation between the quality of school work as measured by marks and the amount of work done at home.

6. The only significant relation discovered between the measures applied was the correlation between what they knew at the beginning and at the end of instruction. This proved to

be $.60 \pm .06$ for the long-period group and $.63 \pm .06$ for the short-period group.

Summary.—It would appear that ninth-grade foods work can be taught successfully on the hour period, providing the time distribution is planned carefully by teacher and students.

The poorer students did about equally well whether the period was long or short although they did slightly better on the longer period.

The brighter students, in the short period class, accomplished more (in a third less time) than did the brighter students in the long period class.

Jensen, Harry T. *The Administration and Cost of Athletics and Physical Education in the Public High-Schools of South Dakota.* 1930.

Problem.—The purpose of this study was to collect data showing how athletics and physical education in the public high-schools of South Dakota are administered and financed.

Data and Technique of Investigation.—

1. Questionnaire, Form A, to be filled out by the superintendent or principal; asked for information concerning facilities, playgrounds, gymnasium and athletic equipment and concerning financial support and administration.

(2) Questionnaire, Form B, to be filled out by each physical education teacher and coach, asked for information concerning present teaching load and related work, training, experience, athletic participation, and playground games.

(3) Records of Secretary of S. D. High-School Athletic Association. The questionnaires were sent out to the four-year high-schools in South Dakota in October, 1928. Follow-up questionnaires were sent out in November, 1928, to those schools not responding. The questionnaires asked for data of the school year 1927-1928. Where exact figures were not known estimates were asked for.

Findings and Conclusions.—

Administrative factors influencing physical activities in the high-schools of South Dakota.

1. The South Dakota High-School Athletic Association governs and restricts the schools in matters pertaining to interscholastic competition.
2. The playgrounds of the state vary from 200 to 800,000 square feet in area.

3. The model gymnasium for the state is 32-40 by 60-69 feet in dimension. Gymnasiums vary from 20-30 by 30-39 feet to 70-80 by 70-up feet in size.
4. Gymnasiums and general equipment is lacking in most of the schools.
5. In the greater number of cases, the superintendent, either alone or by committee, is responsible for performing the functions in connection with athletic and physical education departments.
6. All schools are required to have certified copies of physical examinations for all competing athletes; only ten schools require them for all pupils.

The high-school coach of athletics—

1. Over 98 per cent of the coaches reporting were college graduates with the baccalaureate degree predominantly.
2. Coaching standards are not equal to academic standards for non-athletic courses.
3. More than proportionate time is devoted to basketball.
4. Physical education periods average about forty-five minutes in length with an average of two periods per week.
5. The tenure of coaches is about two years.
6. Over two-fifths of the coaches favored physical education over interscholastic athletics as of greater value, in the long run, to the participating individual.

The cost of athletics and physical education not including coaching—

1. Financial support for high-school athletics is dependent upon the size of the school.
2. The management of athletic finances is deplorably unsystematic and unbusinesslike.
3. Chief sources of revenue are gate receipts, student fees, and athletic tickets.

Summary.—1. The school laws of South Dakota do not provide properly for the administration of a physical education program.

2. The average high-school in South Dakota does not employ a full-time physical education teacher and athletic coach.

3. High-school coaches are poorly trained, no coach reporting a major in physical education, and very few as a minor.
4. A coach or physical education director devotes, on the average, less than one-fourth of his total teaching time to athletic coaching and physical education.
5. Twenty-one schools reported "no records available" for athletic finances and receipts. Other schools gave estimated figures for receipts and finance of athletics.

Lokken, Harry M. *Growth and Accessibility of Public High-Schools in Minnesota*. 1932.

Problem.—This study had to do with the (1) development of the public high-school system of the state of Minnesota and (2) the availability of secondary education in the various parts of the state.

Data and Technique of Investigation.—

1. The laws of Minnesota and various records and reports of the state department of education of Minnesota.
2. Certain unpublished theses at the University of Minnesota libraries.
3. Two questionnaires concerning distances and means of transportation from home to school.
 - a. One filled out by 102 superintendents in the state.
 - b. One filled out by 317 non-resident pupils in attendance in the nine public high-schools of Blue Earth county, Minnesota.

Findings and Conclusions.—

The development of the small district high-school in Minnesota—

1. The constitution of Minnesota makes it mandatory for the legislature "to establish a general and uniform system of public schools" and to provide for their support.
2. The local school district has become the unit of administrative organization of the schools. Special and independent types of districts have most frequently supported secondary-schools.
3. In 1930 the typical secondary-school in Minnesota was a small four-year type high-school with a median en-

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rollment of 83.5 students. Of 422 four-year type high-schools, 61.6 per cent enrolled less than 100 pupils.

Means of transportation, distances travelled, and areas served in Minnesota high-schools—

1. The enrollment of 102 representative Minnesota high-schools showed that 39.2 per cent of the total enrollment was non-resident, of which 33.5 per cent were found to be rooming and boarding in town. Thus the daily transportation problem affected 66.5 per cent of the non-resident enrollment.
2. Of the 66.5 per cent of non-resident enrollment affected by transportation, 58.9 per cent used walking, 18.8 per cent used automobile, and 20.3 per cent used bus. These three methods were used by 98 per cent of those non-resident pupils affected by transportation. Bicycle, horse, railroad, and street-car were found to be unimportant in this respect.
3. In getting to high-school, 65.4 per cent of these pupils traveled less than $1\frac{1}{4}$ miles, about 30 per cent travelled more than $2\frac{1}{4}$ miles, about 14 per cent travelled more than 5 miles, and 3 per cent travelled more than 10 miles.
4. The median area of the districts studied was 11.5 square miles. The area served by the high-school was 79.51 square miles. The typical high-school thus provided facilities for an area about seven times the area of its school district.

Means of transportation used, and distances travelled by secondary-school non-resident pupils in Blue Earth county, Minnesota—

1. Of the 317 non-resident pupils studied in Blue Earth county, 18.6 per cent roomed and boarded in town regularly and 32.5 per cent roomed and boarded in town occasionally.
2. The median distance travelled by non-resident pupil in getting to and from high-school was 5.46 miles. Fifty-two per cent travelled more than 5 miles and 9.1 per cent travelled more than 10 miles.
3. In getting to and from school, the automobile was used 45.51 per cent of the time, walking 27.92 per cent of the time, and bus was used 22.9 per cent of the time.

These three methods accounted for 96.3 per cent of the means used.

Distribution and accessibility of the secondary-schools of Minnesota—

1. In 1930, the median county enrolled 605 pupils in public secondary-schools. It enrolled 3.6 per cent of the total population and 44 per cent of the population 14-17 years inclusive. It contained 5 high-schools serving 3395 total population per high-school and 288 of the population 14-17 years of age inclusive per high-school. The median area per high-school per county was 136.2 square miles.
2. In a five mile radius circle around each high-school, 82.6 per cent of the areas overlapped in the state as a whole.
3. The median of the straight lines drawn from each school to its nearest neighbor was 7.48 miles.
4. Eighty-one per cent of the public high-schools of the state were located on the state trunk highway system. Twenty-one and four-tenths per cent were served by two or more trunk highways. The median distance between high-schools via trunk highways was 9.34 miles for the state as a whole.
5. Schools were accessible by trunk highway practically 100 per cent of the time.
6. Ninety-eight per cent of the public high-schools were located on the railroads. The median distance between high-schools located on railroad was 11.54 miles for the state as a whole.

Lack of economy in small schools—

1. Classes in the high-school departments enrolled less than 20 pupils in 88 per cent of the sections. In class A four-year high-schools, 75 per cent of the sections enrolled less than 20 pupils; in class B four-year high-schools, 50 per cent, and in class C four-year high-schools, 31 per cent of the sections enrolled less than 20 pupils.

The author emphasizes the following general conclusions:

1. The size of the school district remained constant through the evolution of the secondary-school. More complete utilization of modern transportation facilities now available suggest larger school districts.

2. Because small high-schools are relatively more expensive, centralization and grouping in larger units seems to be the next logical development in the secondary-schools of Minnesota.

Steffens, M. R. *The Relationship of State Departments of Education to the Administration and Supervision of Local Secondary-Schools.* 1932.

Problem.—This investigation collected and tabulated objective evidence of the relationship of state departments of education to local secondary-schools in administration and supervision. It includes both practices and policies in both of those fields.

Data and Technique of Investigation.—

1. Questionnaire—Form number 12 of the national Secondary-School Survey, 1930 to which were received 205 replies from officers of departments of education in 46 states and District of Columbia. The replies from the 205 state department officers were divided into eight groups according to the special fields in secondary education of which they had charge, or according to the major type of work in which they were engaged.

Group I. Vocational Supervisors (3.7), from 27 state departments.

Group II. Home economics supervisors, (29) from 24 state departments.

Group III. Agriculture supervisors, (32) from 25 state departments.

Group IV. Commissioners of education, (20) from 19 state departments.

Group V. General supervisors of education, (56) from 36 state departments.

Group VI. Physical education supervisors, (17) from 13 state departments.

Group VII. Special subject supervisors, (9) from 5 state departments.

Group VIII. School library supervisors, (5) from 4 state departments.

The Educational Directory of 1930 listed over 415 officers of state departments who had duties that pertained to secondary-school work.

Findings and Conclusions.—

1. Of the 205 state department officers over 60 per cent have had experience as teachers in secondary-schools; over 43 per cent have had experience as principals in secondary-schools; over 28 per cent have had experience as superintendents of public schools; the median number of years these officers have been engaged in state department work is six years; over 12 per cent have not had four years of training beyond high-school; there are 6 per cent who hold advanced degrees in addition to either the B. S. or the B. A. degree; over one-fifth have attended summer school each year until 1930.
2. The duties listed most frequently are organizing and promoting various types of schools and classes; preparing or approving courses of study; making all kinds of surveys and investigations; visiting, inspecting, supervising, and advising schools and departments in all activities; preparing and publishing bulletin, syllabi, tests, etc.; stimulating professional growth of teachers.
3. In the execution of these duties, most of the time is spent in field work. Over 62 per cent of the officers visit on the average approximately 120 school systems during the year; over 70 per cent of the general supervisors of secondary education visit on the average of 160 and a few as many as 350 to 400 school systems annually.
4. From 45 to 85 per cent of the visitation time is spent in the classroom.
5. Over 61 per cent of the officers state that 90 to 100 per cent of the school visits are initiated by the state department of education.
6. There is considerable disagreement among state department officers in adopted practices and policies which, in their opinion, have resulted in the most progressive developments in secondary education.

Yaukey, J. V. *A Comparative and Critical Study of the Secondary-School Standards of Regional Accrediting Associations.* 1932.

Problem.—The problem in this thesis appears as four questions: (1) What are the similarities and differences of standards of regional accrediting associations; (2) What is the relationship between the regional and the state standards?

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(3) What has been determined concerning the validity of the present standards? (4) What has been the nature of the changes in standards?

Data and Technique of Investigation.—Proceedings of the associations, published statements of the accrediting standards of the states, and reports of scientific studies reflecting as to the validity of the standards used.

Findings and Conclusions.—The results were presented in five parts. Specifically they concerned a study of the requirements concerning the size of school, the plant, the teacher, the administration, and the course of study.

1. There has been no definite tendency for standards concerning the size of the school accredited. The North Central Association has shifted its emphasis several times but now, in agreement with the others, accredits schools employing at least four full-time teachers (of academic subjects). Of the states twenty-six accredited only those schools of three or more teachers; seventeen required only two; and five set no standard as to size. Eleven states have a "size standard" based on the number of pupils enrolled; more generally a minimum of thirty-five pupils.

Several scientific investigations were reported indicating a low correlation between size of school and success in college.

2. The word "adequate" summarizes the regional and most of the state requirements relative to plant and equipment. A heterogeneous collection of state additional requirements was found. Some specified particular types of ventilation; some specified the number of library books and periodicals; some set minimum values of equipment; and, a few name specifically the articles of equipment schools must have.

Questioning the justice of maintaining indefinite standards of regional associations is not well founded. Modern ventilation has been shown to occasion no gain in school performance or attendance; students have been found to do as good work with limited scientific equipment as with sufficient for each student; and, the number of volumes in the library is a poor measure of the extent to which the library fulfills its purpose. It is clearly demonstrated that changes in the standards toward more definiteness would be accompanied by increasing question as to their validity.

3. The most consistent requirement is that each teacher (of academic subjects) be a graduate of a four year college.

In 1912 the North Central Association required that every teacher in member schools should have some training in "pedagogy." Two years later they required eleven semester hours of professional courses. This was soon raised to fifteen. The Southern Association requires twelve hours, and the Northwest Association, modeled after the North Central, requires fifteen. The North Central Association requires a minimum of ten semester hours of training in the subject taught. The Northwest Association requires a minor, and the Southern has a requirement for some "training."

Of forty-three states studied, thirty-two required that teachers be college graduates, and fourteen required from twelve to eighteen semester hours of professional training.

As good teaching is supposed to follow preparation this thesis reported a number of studies on the factors that condition good teaching. "Knowledge of teaching technique" was reported to correlate significantly high to lend proof that requirements for professional courses were justified.

4. In 1901 the North Central Association required sixteen units for graduation. This was reduced to fifteen in 1906, to which the Northwest and Middle States Associations agreed. The Southern Association now requires sixteen units. Of forty-seven state agencies, twenty-nine required sixteen units, fifteen require fifteen, and one requires fourteen and one-half.

The North Central and Middle States Associations and thirty-one state agencies specify a minimum class period of forty minutes. All regional associations require a minimum school year of thirty-six weeks. Two states specified thirty-eight weeks, thirty-six require thirty-six weeks, and five require thirty-five.

As early as 1902 the North Central Association ruled that no teacher should teach more than five classes daily. This standard has been unanimously adopted. The maximum teaching load has been one hundred fifty pupil periods daily, with a teacher-pupil ratio of one to thirty. The requirements concerning teaching load were subject to criticism. This criticism was mainly on five bases. (1) If the teaching load of "150 pupil periods per day is not to exceed five classes" is virtually limiting class size, the recent investigations concerning class size are invalidating. There is a controversy as to whether the regional requirements are class limiting. How-

ever, it was found that eighteen states had class limiting requirements, most frequently at thirty pupils. (2) The equivalency of a laboratory period to a period of prepared class room work has not been demonstrated. The studies indicate that the average double laboratory period is a greater load, by fifty per cent, than the average single class period. (3) The question of duplicating classes has been completely ignored. (4) The possibility of differences of load entailed in teaching different classes has been neglected. (5) Other factors, such as extra-curriculum activities, have not been considered in the computation of load.

Pupil load has been set at the carrying of four units. The associations have suggested that the better students be permitted to carry loads in excess of this. The North Central permits the upper twenty-five per cent to carry loads heavier than four units, and the Northwest suggests fifteen per cent. Twenty-six of forty-three states studied definitely limited the pupil load with seventeen, making provisions for the superior students to exceed this amount. The studies that have involved this factor indicated that the pupils of the lower mental ability groups carried excessive loads about as well as those of the upper groups.

5. Regional requirements concerning the course of study required have been few and short-lived. In state accrediting practice it has been the universities rather than the state departments that have specified definite courses. The tendency is to require three units of English, two of mathematics, one of science, and one of social science. At least eight scientific studies indicate there is no relationship between the student's pattern of courses in high-school and his success in college.

Summary—(1) There is a lack of definiteness in regional standards. (2) Regional standards are, in general, higher than state standards yet there are many instances of more rigid state requirements. (3) Definite standards as to size of school, pupil load, and teaching load are seriously questioned in the light of scientific investigations. (4) The "indefinite" standards are justified when the findings of scientific studies are applied to any proposed change. (5) Standards concerning the length of the school year, week, and day, and several other traditionally accepted standards have not been studied scientifically.

DEPARTMENT MATTERS

NATIONAL HONOR SOCIETY

Over ten years ago the Department of Secondary-School Principals (then the National Association of Secondary-School Principals) organized the National Honor Society with the end in view of stimulating scholarship in the secondary-schools of the United States. To-day there are over fourteen hundred chapters and these are in the best high schools in the country. The four objectives of the society are: to create an enthusiasm for scholarship, to stimulate a desire to render service, to promote worthy leadership, and to encourage the development of character. Every high-school principal who has a chapter is enthusiastic over the productive results of this organization in his school. Direct all requests for literature to H. V. Church, 5835 Kimbark Avenue, Chicago.

NEW PRICES

EMBLEM, NATIONAL HONOR SOCIETY

The emblem is made in two sizes: a watch charm size, and a pin (smaller size). All pins have 10k safety catch. The prices are as follows:
 14k Charm..... \$3.30 14k Pin..... \$2.53
 10k Charm..... \$2.75 10k Pin..... \$2.13
 Gold Filled Pin..... \$1.15

All orders must have the approval of the principal and will be sent post-paid only on receipt of remittance to H. V. CHURCH, 5835 Kimbark Avenue, Chicago.

WARNING .

The National Honor Society has met with such great success that imitations are springing up in different parts of the country. These pseudo honor societies seem to have largely a commercial objective, and plan to exploit scholarship for financial ends. Members of our department are warned to beware of any plan to sell pins or emblems to pupils under the guise of scholarship, and are urged not to lend their aid or influence to such organizations.

The Department of Secondary-School Principals recommends only the National Honor Society and the National Junior Honor Society.

THE NATIONAL JUNIOR HONOR SOCIETY

The National Junior Honor Society is patterned very closely after the Senior Honor Society. The Junior Society is designed for ninth and tenth grades in four year high schools, and for eighth, ninth, and tenth grades in Junior high schools. This organization is now a going concern, and already there are a number of chapters, both in senior high schools and junior high schools. The national constitution, the model constitution, and booklet of information as well as the application blank will be sent on request. Direct all applications to H. V. CHURCH, Executive Secretary, 5835 Kimbark Avenue, Chicago.

NEW PRICES

EMBLEM, NATIONAL JUNIOR HONOR SOCIETY

The emblem is made in two grades: ten karat gold and gold filled. All pins have safety catch. The prices are as follows:
 Ten Karat Pin..... \$1.60
 Gold Filled Pin..... \$1.10

All orders must have the approval of the principal and will be sent only on receipt of remittance. Address orders to H. V. CHURCH, 5835 Kimbark Avenue, Chicago.

SEALS AND MEMBERSHIP CARDS

Membership Cards—Since the organization of the National Honor Society there has been a growing demand for membership cards in the organization. Cards of membership both for members of the National Honor Society and for the members of the National Junior Honor Society are now on sale. The cards ($2\frac{1}{2}'' \times 2\frac{3}{4}''$) are engrossed on a fine quality of cardboard, have the emblem of the Society embossed upon them, and require only the insertion of the name of the member.

The price of the cards is five cents apiece.

Seals—The Seal ($1\frac{1}{4}'' \times 1\frac{3}{4}''$) is a gilt embossed sticker to be affixed on the diplomas of members of chapters. A replica of the emblem is embossed on the seal.

The price of the seals is five cents apiece.

NATIONAL HONOR MEMBERSHIP CERTIFICATES

In response to repeated demands, the Department of Secondary-School Principals has prepared membership certificates $8\frac{1}{2}'' \times 11$ for members of the National Honor Society. These certificates are lithographed on artificial parchment with the die of a facsimile of the emblem stamped in gold. They sell for fifteen cents apiece post-paid. Direct orders to H. V. CHURCH, 5835 Kimbark Avenue, Chicago.

*If gold goes to \$34 an ounce, prices will be advanced.

90 ABSTRACTS OF UNIVERSITY OF MINNESOTA THESES

PUBLICATIONS OF THE DEPARTMENT OF SECONDARY-SCHOOL PRINCIPALS OF THE NATIONAL EDUCATION ASSOCIATION

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Second Yearbook, 1918, Atlantic City.

Papers on The All-Year Schools, Administration, Physical Education, Military Training, Social Life, Junior High-School Curriculum, and the Place of the Junior College. (66 pp.) \$2.00

Third Yearbook, 1919, Chicago.

Papers on Student Government, Cardinal Principles, Democracy and High-School, Social Science, Curriculums, Homogeneous Groupings, and the Social Recitation (87 pp.). \$2.00

Fourth Yearbook, 1920, Cleveland.

Papers on Training for Leadership, Technique in Teaching, Program of Small High-School, Continuation Schools, Social Studies, High-School Principals, Homogeneous Grouping, and Co-Operative Courses. (114 pp.) \$2.00

Fifth Yearbook, 1921, Atlantic City.

Papers on Pupils with Less Than Average Ability, Moral Education, Character Education, the Principal's Duties and Intelligence Tests. (69 pp.) \$2.00

Sixth Yearbook,—(out of print)—

Seventh Yearbook, 1923, Cleveland.

Papers on Guidance, Rating of Pupils, Moral Training, Sex-Social Training, Finances (2), Curricula (4), Social Life, Platoon Plan, Student Activities, Cardinal Objectives, Physical Education, Deans of Girls (4), Compulsory Education, and Supervision. (150 pp.) \$2.00

Eighth Yearbook, 1924, Chicago.

Papers on Retention, Student Activities, Adjustment of Curriculum to Pupils, Faculty Meetings, the Small High-School, Teacher Development, Finances (3), Social Science (4), and Deans of Girls (6). Junior High School: Curriculum (4) and Guidance. Junior College: in California, Co-ordination of High-School, and Place of. (221 pp.) \$2.00

Ninth Yearbook, 1925, Cincinnati.

Papers Guidance (4), International Relations (3), Rural High-Schools, Administration, College Relations, Curriculum (2), Physical Education, High-School Principals, Scholarship, Junior High-School (3), Ability Grouping, and Teacher Training. (207 pp.) \$2.00

Bulletin No. 10, January, 1926.

Abstract of Books and of Magazine Articles on Administration and Supervision. (32 pp.) \$0.25

Bulletin No. 11, Tenth Yearbook, 1926, Washington.

Papers on Social studies (2), International Relations (2), Record Forms, Fraternities, Scholarship, Administration (5), Curriculum (3), Personnel Charts, Guidance, Marks (2), Principals, Student Activities (2), National Honor Society (5) and Culture. (259 pp.) \$2.00

Bulletin No. 12, May, 1926.

Abstracts of Books and Magazine articles on Administration and Supervision. List of, and Rituals of Induction to Chapters of the National Honor Society. (46 pp.) \$0.25

Bulletin No. 13, October 1926.

Abstracts of Books and of Magazine articles on Administration and Supervision. (20 pp.) \$0.25

Bulletin No. 14, January, 1927.

Abstracts of Books and of Magazine articles on Administration and Supervision. (28 pp.) \$0.25

Bulletin No. 15, Proceedings of the St. Louis (1927) Meeting.

Papers on Modern Youth, Curriculum (4), School Achievement, Physical Training, Size of Class, Junior High-School Curriculum (2), Six-Year High-School, Chaos in Secondary Education, High-School Publications, Place of the Junior College, Improving Teachers in Service, Pupils of limited Ability, and Tests. (251 pp.) \$2.00

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Directory of Members. (106 pp.) \$0.25

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Bulletin No. 18, October, 1927.

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Bulletin No. 19, January, 1928.

Report of the Committee on Guidance in Secondary Schools. (94 pp.) \$0.50

*Figures show number of papers.

DEPARTMENT OF SECONDARY-SCHOOL PRINCIPALS 91

Bulletin No. 20, Proceedings of the Boston (1928) Meeting.

Papers on Education in Russia, in India, Internationalism (3), Small High-Schools, Character Training, Specialist in Secondary Education, the Visiting Teacher, Rating of Teachers, Curriculum (2), Business and High-Schools, Supervision (4), and Guidance (2). (206 pp.) \$2.00

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Abstracts of Unpublished Masters' Theses in the Field of Secondary-School Administration, University of Chicago. Also a Directory of Members. (202 pp.) \$1.00

Bulletin No. 25, Proceedings of the Cleveland (1928) Meeting.

Papers on Supervision (7), Curriculum, Articulation, Training Pupils to Study (2), Selection, Guidance, Use of the plant, Commercial Education, and Surplusage of Teachers. Junior High-School: Schools of Ohio, Schedule Planning, Character Training, Teacher Training, Individual Differences, Electives, Short Unit Courses, Vocational Training, and Obligations of Junior to Senior High-School. Junior College: Function of, Criteria for, Relation to University, Present Status, Service to Community, Orientation Program, Duplication of Courses, and Future of Junior Colleges. (pp. 389) \$2.00

Bulletin No. 26, April, 1929.

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Bulletin No. 30, Proceedings of the Atlantic City (1930) Meeting.

Papers on Curriculum, Guidance, Technical Courses, Graduation, Finances (4), Standards and Future of High-Schools. Junior High-School: Finances, Reading and Articulation (4). Junior College: A State Institution (2), Standards, Articulation, Terminal Courses, Four-Year Junior College, in California, Curriculum, and Teacher Load. Reports of Department Committee on Investigation of Secondary Education. (pp. 301) \$2.00

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Papers on Philosophy of Education (1), of Secondary Education (2); Guidance (2); Extra-Curriculum Activities (2); Teaching Methods (1); Curriculum (1); Dramatics (1); Teaching load (1); Department Heads (1); and Librarians (1). Junior High School: The Principal (1), Function of (1), Guidance in (1), Home room Program of (1), and Parent-Teacher Activities of (1). Junior College: Finances of (1), Defense of (3), Curriculum of (1) \$2.00

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Papers on National Survey of Secondary Education (7); (a) Organization of Survey (1); (b) Guidance (2); (c) Extra-Curriculum Activities (1); (d) Organization of Junior High-Schools (2); (e) Curriculum of High-Schools (1); Philosophy of Secondary Education (1); Study Habits of Pupils (1); Class Size (1); Teachers' Salaries (1); Pupil

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Adjustment (2); Articulation of High-School and College (1); Mental Hygiene (1); Technical Education in High-Schools (2). Junior College: 6-4-4 Organization (1); 6-3-2 Organization (1). (pp. 330)-----	\$2.00
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Bulletin No. 43, December, 1932. Abstracts of Unpublished Masters' Theses in the Field of Secondary-School Administration, Peabody Teachers College-----	\$0.50
Bulletin No. 44, January, 1933. Secondary-School Abstracts, and Directory-----	\$0.50
Bulletin No. 45, March Proceedings of the Minneapolis (1933) Meeting. Papers on Defense of American Secondary Schools, the State and Its High-Schools (3), Curriculum (4), Economy (4), Directed Learning, Library (2), New Standards, Regional Agencies, Music, Art, Industrial Arts, Guidance, Cooperative Studies, Six-Four-Four Plan, Tests, Carnegie Commission; Junior High-School: Curriculum, Learning Situation; Junior College: Taxes, Public Relations, Administration, Instruction-----	\$2.00
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The Department of Secondary-School Principals has been distributing uniform certificates of recommendation for over ten years. At first they were sent out free to the members of the Department, but the demand for the certificates became so great that the printing and mailing charges became a burden to the treasury. Therefore, a charge was made.

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DEPARTMENT OF SECONDARY-SCHOOL PRINCIPALS 98

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BOOK NOTICES

Young, Jeremiah S. and Wright, Elizabeth Young. *Unified American Government*. New York; McGraw-Hill Book Co., 1933. Pp. xviii & 719. \$1.75.

A textbook that emphasizes government as applied economics and sociology. The units and functions of government, local, state, and national, are fully treated. It is planned for senior high-school.

Wallis, Grace A., and Wallis, Wilson D. *Our Social World*. New York, McGraw-Hill Book Co., 1933. Pp. xiv & 378. \$1.60.

This high-school text treats sociology somewhat from the historical aspect, but largely from our present social point of view. The cultural side of our social life is given prominence.

Dillavou, E. R. *Business and Law*. New York, McGraw-Hill Book Co., 1933. Pp. xv & 494.

Gives commercial law as applied to business full place. Some case work is given. Shows the pupil adequate insight to business experiences.

Cole, Elbert C. *An Introduction to Biology*. New York, John Wiley and Sons, 1933. Pp. xiii & 518. \$1.75.

Organisms, their similarity in form and function, their dependence on inorganic structures, their economic importance and relations of, and their interrelations are the unique features of this textbook.

Magenis, Alice and Gilmour, Madeline F.. *Directed High-School History Study*. Book Two, (Modern Period). New York; World Book Co., 1932. Pp. 208. \$.84.

A work book that has many exercises, references, maps, illustrations, and unit problems.

Ross, Edward Alsworth. *Civic Sociology*. New York; World Book Co., 1932. Pp. vi & 415.

A manual for the senior year of high-school. The book emphasizes the outstanding social and civic problems.

Lovely, Thomas J. *Digest of Economics*. New York; Globe Book Co., 1933. Pp. vii & 366. \$.50.

A brief and thorough discussion of mans wants and his struggle to meet those wants. It has a heavy paper cover.

Gladstone, David, and Meltzer, Leo I. *Elementary History*. New York; Globe Book Co., 1933. Pp. x & iii. \$.25.

A simple, brief outline of the history of the United States from 1865 to the present.

Tanz, Louis. *Bookkeeping Workbook. (Second Year)*. New York; Globe Book Co., 1933. Pp. 60.

Has seventy-two graded exercises of the proper difficulty for second year work in bookkeeping.

Peabody, James Edward, and Hunt, Arthur Ellsworth. *Biology and Human Welfare*, (New Edition). New York, The MacMillan Co., 1933. Pp. xii & 658.

The aim of this book is to interest, instruct, and change the life of the pupil to more healthful living and to a realization of his high place in the regimen of nature.

Fay, Charles Ralph. *Elements of Economics*. (Revised Edition). New York, 1932. Pp. xxiii & 629.

A tried manual brought down to date with tests, references, and other aids to teaching the subject added.

Packard, Leonard O., Sinnott, Charles P., Overton, Bruce. *The Nations at Work*. New York, The MacMillan Co., 1933. Pp. viii & 696. \$1.72.

The economic data of the Fifteenth Census, the implications of the depression, the Five-Year Plan, new industries, air transport are outstanding features of this text.

Peirce, Adah. *Vocations for Women*. New York, the MacMillan Co., 1933. Pp. xvi & 329.

A complete textbook on women's occupations only. The major avenues for women are fully treated. \$2.00.

Benson, Charles E., Lough, James E., Skinner, Charles E., and West, Paul V. *Psychology for Teachers*. Revised Edition. Boston, Ginn and Co., 1933. Pp. vi & 490.

The textbook of 1926 revised in the light of the advance of educational psychology during the last six years. Designed for student of college grade, it is valuable for high-school faculties.

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H. V. CHURCH,
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